

## Official and Classified ADVERTISEMENTS

Continued from Page 19

### BOAT BUILDERS

ELTON Boatbuilding Co., clinker boat builders, 14-20ft., larch on oak, hull only or any stage completion. GRP hulls fitted out. Castles, keels, Kirkebright, Scotland, telephone: 0567 30177.

### MARINE SURVEYS

SEA SURVEYS, 25 North Road, Bristol BS6 6AD. Prompt professional, surveys, valuations and advice on new, safety and stability rules. All types, anywhere. Bristol 43322. (24 hours).

## ECHO SOUNDERS — FISH FINDING

Booklet of questions and answers by John Burgess and list of suppliers. £1.50 posted from: M. E. Publications, 6 Quay Street, Woodbridge, Suffolk IP12 1BX

## Stern trawlers pull in over £33,000

IT WAS a close race to top-ship position at Fleetwood last week with *Boston Beverley* (Skipper Hugh McMillan) just beating *Gavina*.

*Boston Beverley* took advantage of a good market to make £23,030 from 1,163 kits, including more than 1,000 of cod. *Gavina* landed later in the week with her 1,107 kits making £23,027. Both stern trawlers had been to Iceland grounds.

Other of the port's vessels

venturing to the grounds did not fare so well — mainly due to bad weather. The stern trawler *Ivana* (Skipper Tom Watson) landed only 783 kits which sold for £23,502, while *Jacinta* (Skipper Gordon Wignall) had 1,000 kits, which sold for £26,867. Both vessels had just over 500 kits of cod.

There was again an excellent sole market reflected in the Irish trawler *Marrie Jacob's* grossing. She came into port with just 61 kits, but of those more than 35 were of sole, which helped her make £25,230. This was not bettered by any nearwater landing at the port.

The nearest to it was £4,484 grossing by the side trawler *Resolute*, which is enjoying a good run under the command of Skipper Bill Ansell. On her latest voyage she caught 196 kits, including 35 of cod and 80 of sole, which met a market eager for both varieties.

Top hake catch of the week was landed by *Mount Melleray* (Skipper Dick Farrer). She had 40 kits of the variety in her total of 273, which also included 80 of cod, 90 of haddock, 16 of roker and 40 of sole, for a grossing of £6,120.

### Landed

But the top grossing in the section went to *Royalist* which landed on the same day. Skipper Jack Pickers brought the vessel in with 259 kits, including 46 of cod, 30 of plaice, 80 of haddock, 35 of roker and 10 of sole, which sold for £7,285.

Landings by inshore vessels were good when the weather allowed them to work. But it is unfortunate that with cod now commanding such a big price this fish does not figure largely in catches by these vessels.

# Top boat forced out of fishing

PEGGY III, probably the most successful inshore fishing vessel to work the east coast from Grimsby since the war, has been sold to interests outside fishing.

This is largely due to the new DoT safety regulations and the problems of finding suitable men to crew her on a regular and reliable basis. Built 40 years ago by Alexander Aitken at Anstruther, the wooden 50-footer became subject to the DoT rules from October and skipper-owner Ted West, who was already in the process of taking steps to conform to the new legislation, was ordered to cease fishing on that date.

A verbal dispensation allowing her to continue for a further six months was made, but on top of the other problems facing Skipper West it was the last straw and he decided, reluctantly, to accept the first reasonable offer for the vessel which had provided his livelihood for the past 22 years.

Having completed a deal with Philip Ware, of Bungay, Suffolk, who is converting *Peggy III* into a holiday cruiser to be based on the west coast of Scotland, a saddened Ted West spoke to *Fishing News* about his predicament and made no bones about current Government policies which forced *Peggy III* into a state of no longer being viable.

"During this year I've taken more risks to earn more money than I ever have



Above: skipper-owner Ted West of *Peggy III* (left), and the few locals prepared to speak his mind about the problems of running an inshore boat at Grimsby. *Peggy III* has been sold to a Scottish owner who will convert her for pleasure cruising.

before in my life, but in spite of average earnings of about £300 a day during the summer dogfishing I could not make her pay as a fishing vessel due to three principal factors.

"Namely the costs of complying with all the new DoT rules, the NDLE decision to 'black' inshore vessels which do more than 31 days at sea and the difficulties of finding men who want to remain in highly paid regular employment."

Elaborating, Skipper West said he was not completely at variance with the DoT safety regulations, only objecting to the high survey fees, the enforcement of metric draught numbers and the installation of watch-keeping receivers — "leave these three out and I go along with it."

He had been badly hit by the two-year-old RDL local decision compelling inshore at sea for more than seven tides to indent for lumper labour to unload the catch and this ruling had pushed up his fuel bills and taken him off good fishing too often.

He disclosed a constant problem of crewing and from 52 applications in the last month for a situation on *Peggy III*, he found it very difficult to find a single man prepared to remain regularly employed.

With a top-line of £200 per week last summer the job was not badly paid although Skipper West admitted there

were weeks when they were better off on the dole. "The trouble now is they get a couple of good weeks and you can't keep them and there's always the Social Security to fall back on when the money runs out."

The departure of *Peggy III*, initially for a refit in Suffolk, is a serious blow to Grimsby's dwindling inshore fleet.

## Council plans 'come-back' for Macduff

EFFORTS are being made to revive Macduff Harbour, Banffshire, as a fish sales centre. Grampian Regional Council are keen to woo back boats lured away in recent years by higher prices at other markets, principally Peterhead.

The region's harbour consultant, William D. Hay, has already had discussions with skippers at Macduff and is planning to follow this up by seeking a meeting with fish buyers in Aberdeen.

Mr. Hay said: "The

skippers at Macduff have said that quite a number of them would land at their home port if they could get competitive prices.

"The skippers have indicated that they might be prepared to land regularly at Macduff for a trial period in the hope that additional buyers would attend."

Councillor A. J. Rennie, Pitmedden, chairman of the region's transportation and roads committee, said they were also anxious to encourage increased use of Buckie and Burchard harbours and in their case they were looking to the possibilities of expanding commercial traffic.

Mr. Hay continued: "A number of skippers have remained faithful to their home ports and if more buyers were to attend these markets then it is certain more boats would land at their local ports. On the other hand, the buyers would possibly attend if more boats were to patronise their home ports."

In the coming year it is proposed to raise the parapet on the breakwater at Priton Royal basin to give greater protection to the fishing vessels.

Part of Shore Street Quay will be re-faced next year and provided new harbour offices can be obtained, the remaining section will also be re-faced. This will greatly improve quay space and give better facilities for the gear machine.

**VOLVO PENTA**  
THE DISSEMINATED  
THAT LIVE UP TO  
THEIR REPUTATION  
75hp-220hp

November 19, 1976

No. 3303

Est. 1913

12p

MIRRELES  
BLACKSTONE  
DIESELS

# EXIT FROM ICELAND — IF TALKS FAIL

THE BRITISH deepsea fleet fishing Iceland has now reached crisis point. Trawlers sailing after today will not be able to guarantee enough time on the grounds to make a paying catch before the present agreement on trawling inside Iceland's 200-mile limit expires on December 1.

More talks between the EEC, representing British trawlers, and Iceland are set for November 25 — just five days before the present deal runs out.

All the informal talks held on Friday last week between the two parties seem to have achieved is the date for more talks and an understanding that British trawlers would make their exit from Iceland's 200-mile limit on December 1 if no agreement is hammered out.

The British Fishing Federation is leading a bid to push the EEC into achieving a fish-on deal before the expiry date, but a spokesman told *Fishing News*: "We're just not getting through to Brussels."

Earlier this week the BFF issued a statement outlining British trawlers' increasing anger and alarm at the "procession of concessions" technique being adopted by the EEC Commission.

"The commission has not even reached the negotiating table yet, but has already paved the way to it with a series of press briefings and statements each of which has marked a further retreat from the one before," said Austen Leung, BFF director-general.

Before embarking on what is termed "preliminary" talks last weekend the commission gave a press briefing at which it stated it did not feel it had much of a case. After the

talks in Reykjavik the commissioner responsible, Finn Olav Gundelach, a Dane, said he was "neither pessimistic nor optimistic," but added that he thought the EEC would be able to catch even less fish than its already depleted levels from the Icelandic region.

"If that isn't being pessimistic, I don't know what is," commented Mr. Leung. "The tardiness and ap-

parent defeatism of the commission's approach is deplorable."

What most concerns trawlers is the EEC's apparent indifference to the enormous problems the delays and indecision are already creating in our deepsea ports. Within the next two weeks, scores of ships and hundreds of fishermen will be out of work, says the BFF.

It went on to say the commission's attitude towards Iceland is increasingly baffling. A confidential report by the commissioners is thought to mention the only hope of getting "co-operation" from Iceland, yet strongly threatens "methods of retaliation" if the Community does not get fair treatment in American and Canadian waters, where its case is weaker and its interests less important.

Informed sources in Iceland optimistically stated the brief meetings last Friday were very cordial, but there are real fears that Iceland will not deviate from implementing fully her 200-mile

limit which Britain has agreed to.

This means there could be no fourth cod war, with British trawlers fishing in defiance of Iceland. So, if there is no new agreement, around 60 UK distant water trawlers will have nowhere to go except the scrapyard.

There would be an acute shortage of fish and the thousands engaged in catching and shore processing in Grimsby, Hull and Fleetwood would be hit. Aberdeen would be hit less as only four local trawlers work off Iceland.

A new deal rests on reciprocal fishing rights as

## Net drum refit for 'Carlisle'

GRIMSBY owners, Consolidated Fisheries, is to send another of its fleet mid-watering.

*Carlisle*, sister-ship to *Real Madrid* which is now fishing mackerel off the south-west, is at present under-going a refit at Grimsby and she is to be fitted with a net drum.

The 140 ft. *Carlisle*, which has not fished for about two months, is to have a similar net drum to her sister-ship. The specification has not yet been decided.

South-Western Mechanised Fishing of Devon will be delivering the drum within the next two months. *Real Madrid* is reported to be catching a lot of mackerel, but breaking gear.

## Limit sticker

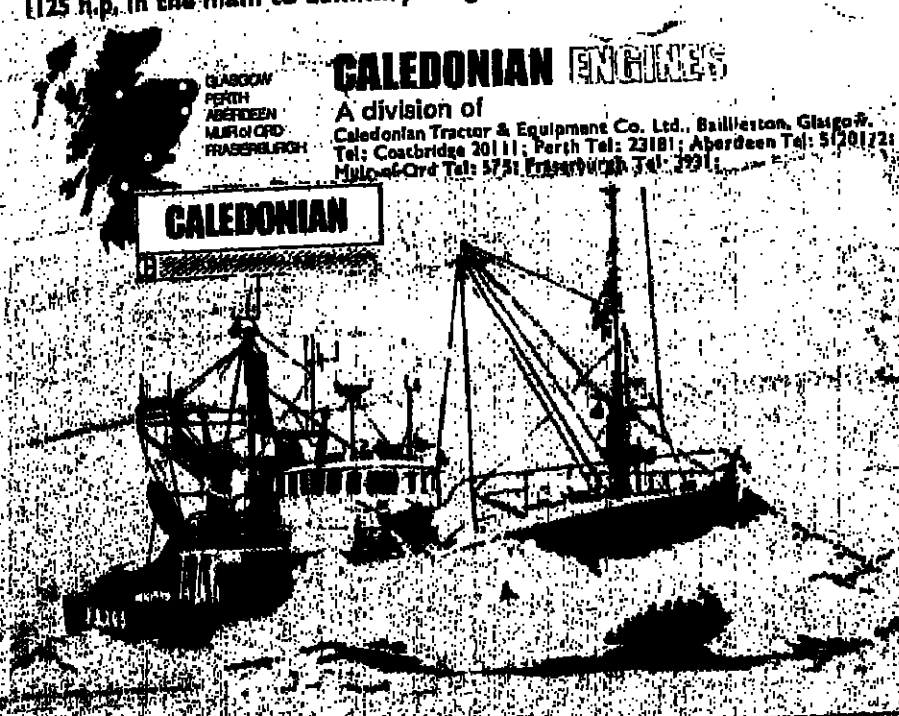
YOU CAN do your bit to null support for a 50-mile limit with the free car-sticker inside *Fishing News* this week. Produced by the British Fishing Federation, already 50,000 stickers have been sent out.

Turn to page 16

## Power where it's needed.

If you want to know something about Caterpillar power, ask the men who rely on it for their livelihood, and at times, even their very lives. Ask a man like Jim Slater, skipper of the fishing trawler "Aquila". Jim Slater's trawler is powered by a CAT D398 TA which develops 850 h.p. at 1225 r.p.m., and there's power to spare there! It's typical of the range of Caterpillar Diesel Engines which Caledonian have been selling in Scotland these past 25 years.

Is the follow-up after sales service which Caledonian supply for all Caterpillar engines and equipment. Whether you're buying a new vessel or re-powering, ask Caledonian for details of Caterpillar Marine Diesel Engines. You can fit 85 h.p. to 1125 h.p. in the main to auxiliary range of engines.



## 'The Prophet' retires



PROPHET Smith, the last member of the original Highlands and Islands Development Board, who retired recently, is seen (above right) being presented with farewell gifts. Mr. Smith, who joined in 1965, was responsible for land, transport and fisheries. The gifts of Calveus Glasware were presented by HIDS chairman Professor Kenneth Alexander who paid tribute to Mr. Smith and the qualities of continuity, enthusiasm, tenacity and wisdom he had brought to the board. "I don't know if Mr. Smith is indispensable," he said, "but the Scottish Office have not yet found someone to replace him."

## HULL'S HISTORY OF THE EAST COAST

THE SECOND phase of Hull's Town Docks Museum was opened on Wednesday this week by Sir Leo Schultz OBE.

The new displays which lay open the total ground floor are devoted to the history of east coast fishing and trawling.

The displays begin with the Silver Cod Trophy which was awarded until 1988 to the skipper bringing back the best catch of the season. After this there are six sections showing the development of fishing techniques and equipment.

The first section deals with fish and inshore fishing, then there are sections devoted to seal trawling, steam trawling,

fishermen at work, modern trawling, and finally, modern fish-finding.

The displays have been designed by Robin Wade Design Associates in conjunction with the Hull Museum staff whose members, led by senior keeper, Edward Paget-Tomlinson, have written the story line and refurbished most of the models which were formerly in the Pickering Park Museum.

Along with the detailed models of maritime engineering, the human element has its place. A life-size fisherman, in orange oilskins, is shown at work gutting fish, and there are many photographs and some paintings of ships and seasoned sailors of the past.







## You know best what you want in a net.

And Bridport-Gundry can help you get it. We make virtually every kind of net you could imagine, and we've been doing it for over 300 years.

Our new catalogue lists some of the types of nets we are renowned for. Send us the completed coupon and we'll be pleased to send you a copy.

But don't worry if you don't find exactly what you want. Our complete range is so extensive it is impossible to show it all in one catalogue.

If your needs are more specialised, just send us a specification of what you've got in mind, and we'll be pleased to quote.

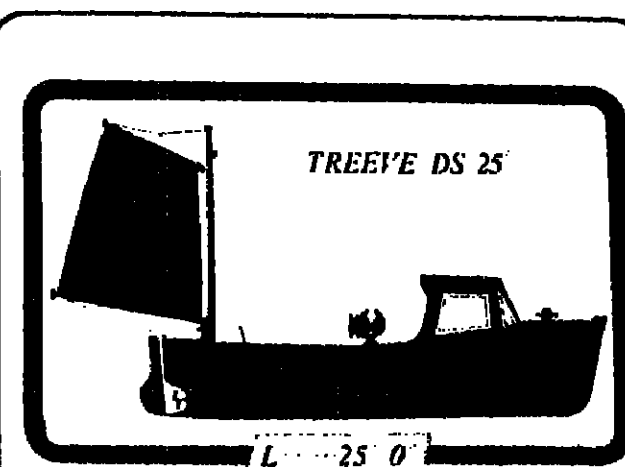
### BRIDPORT-GUNDRY LTD

T. Bridport-Gundry Ltd, Bridport, Dorset  
 Tel 01305 44444. Telex 44112  
 Please send me my copy of your new fishing net catalogue.  
 Ask your representative to call when next in the area.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

EN 11 76



Complete Hulls £1350 at present

**TREEVE MARINE LTD**

HAYLE; CORNWALL

TEL 75 2224

# Milford now a mackerel base 'ORSINO' LANDS 520-TONS

MILFORD HAVEN looks like playing an important role in the south-west winter mackerel fishery — as a landing base for Hull freezers.

Last weekend the Hull stern trawler *Orsino* docked at the port with a catch of 520 tons of mackerel.

This move followed the successful handling of Hull

freezers during the summer when they landed fish from northern grounds.

Following talks between Milford Docks Co. officials and at least three Hull companies, it is expected that more vessels will land mackerel at the port.

If *Orsino's* owners are satisfied with the landing, the vessel is expected to stay on the south-west grounds until next March, using Milford

every two or three weeks.

Docks company manager, Roy Evans, said that two other companies had indicated that they would land mackerel at the port.

He added: "It seems as if Milford Haven could become a major mackerel port."

There is an added advantage for large stern trawlers using Milford as it has dry-docking and engineering facilities for larger trawlers.



Samantha — fishing mackerel until the spring run starts.

## 'GALLIC ROSE' RETURNS

THE Scots purse seiner *Gallie Rose* arrived at Cornwall on Sunday and landed 80-tons of pilchards and mackerel.

*Gallie Rose* was brought down by Skipper Andrew Watson and his crew from Buckie, on the north east coast of Scotland.

She arrived off Lands End in the early hours of Sunday morning and took her first catch of the season before putting into

the harbour at Penzance.

With Kismet Fisheries of Newlyn acting as agents — as it did last winter — the mixed fish went by road to Hull for fish meal.

It was the 98 ft *Gallie Rose* which last January

landed a local record of 115-tons of mackerel at Penzance on her maiden trip.

She is planning to fish in the south-west from Penzance and her sister-ship, *Gallie May*, could be joining her shortly.

## Trawlers move in

WITH ABOUT 100 tons of mackerel being landed on Thursday last week by three boats, Penzance has begun a new life as a trawling port.

Two of these landings were from local boats. There was a catch of about 80 tons from the mid-water trawl of *Efficient*, a total of 1,000 tons from the *Renovelle* — both from Newlyn — and 25-tons from *Mohave* of Grimsby.

Watching landings from the quayside was Derek Brown, skipper of the Grimsby sister-ship *Shawnee*, which could be coming to Cornwall soon.

He travelled to Penzance to assess the situation. Both he and *Mohave's* skipper, Colin Spall, are former deep-water fishermen who worked

Icelandic grounds. "As far as Grimsby is concerned these are the boats for the future, so all the deep-sea men are changing over", he remarked. "I can see us enjoying our stay here: it is a nice quiet place."

Also watching the opera-

tion was a Danish businessman interested in mackerel for the consumer market. A fish pump capable of landing 50-tons of fish an hour filled a truck in about 20 minutes.

The mackerel was taken to the Hull fish meal plant.

## 'Fighting' risk

THE CORNISH line-boat mackerel fleet may not survive this winter. By Christmas boats could be tied up, the men living on social security.

This is the way it looks to the inshoremen themselves — and they may not go down without a fight.

Mackerel catches are very poor close inshore, but further out mid-water trawlers and pursers working round the clock are taking heavy catches.

The resentment of the inshoremen, they say, is not envy of their more successful rivals. They accuse the operators of large trawlers of harassing the fish and dispersing shoals, also of

aggressively driving small boats away from the shoals they do find. Tempos are fraying and some say there is a real risk that fights will break out within the next few weeks. A substantial reduction in the size of the inshore fleet seems inevitable.

The competition from big ships has been sudden and overwhelming.

## £50,000 A TRIP

NEWINGTON'S *Somerset* *Maughan* topped £50,000 on Tuesday this week for the fourth time running.

She made £52,878 for 1,859 kits caught in a 25 day trip to the Bear Island/White Sea grounds under Skipper Brian Taylor.

Average per 10 stone kit were £27.42p for cod and £31.35p for the 147 kits of haddock.

## PELICAN ENGINEERING CO. (SALES) LTD

manufacturers of Gardner-powered marine auxiliaries for the new trawler *GLEN CLOVA* with the owners, J. Marr (Aberdeen) Ltd, Skipper Kenneth Walker and the crew the best of luck for the future.

WAKEFIELD ROAD & WOOD LANE  
ROTHWELL HAIGH  
LEEDS LS26 0RU  
TELEPHONE: LEEDS 822161-4  
NIGHT SERVICE: LEEDS 7-2884

## fishing news

Editor: Harry Barrett  
Assistant Editor: Ian Strutt  
Scottish Correspondent: Gloria Wilson  
Advertisement Director: Fred Purcell  
Managing Director: W. A. Cathles

Published weekly.  
Postal subscription rate £7 per annum  
£7.50 overseas  
Registered as a newspaper at the Post Office.

110, FLEET STREET  
LONDON EC4A 3JL  
Telephone: 01-353 8961

## Ross Ramillies makes £50,613 after 22 days

ROSS RAMILLIES, Grimsby sidwinder which held the port grossing record for just a few days late in August, picked up another top trip at the Humber port last week.

Skippered this time by regular David Scott, the 673-tonner made £50,613 from 1,886 kits, largely cod and codling, after 22 days to Iceland.

In a week dominated by distant water landings, *Ross Ramillies* narrowly topped an early £48,937 grossing by *BU's Northern Gift* (Skipper David Pulfrey) from 1,684 kits, also mostly codlings, after a 21-day Icelandic trip.

Altogether in the section 12 trawlers turned out 14,100 kits, or roughly two-thirds of all the fish landed at Grimsby.

Coming in the week EEC negotiators tentatively opened talks in Reykjavik on the delicate subject of continued British access to Icelandic grounds, the distant waters could not have expressed their vital role in the economy of the Grimsby fishing industry more forcefully.

Again the biggest disappointment was the slack fishing with most vessels pressed to break four figures in kits on both Icelandic and White Sea ground, but the markets were very sharp and only Boston's beleaguered *Vesuvius* (Skipper Ray Evans), back with mechanical troubles, failed to top £27,000, having to settle for a modest £15,895 from 639 kits after a 17-day trip.

Once again Grimsby opened her markets to three Icelanders, *Ran*, *Gudsteinn* and *Solberg*. Best grossings here came from *Gudsteinn*, a sister ship to *Ogri* the record earner from the week before, but she had to settle for £42,757 from 1,565 kits from a nicely mixed catch of mainly cod, haddock, plaice and coley.

Middle/near water trawler

landings were well down on 5,880 kits from ten local vessels. Biggest catch came from *BU's Ross Genet* (Skipper Bill Salt) with 867 kits after a 14-day Westerly trip, but she made only £13,601 with over half the catch finding its way to the meal factory due to a surplus of dogfish.

Biggest grossing, however, came from Taylor's *Ogano*, £17,843.

## Laid-up ships may go to Monrovia

TALKS were going on at Fleetwood last week which could mean two of the port's vessels sailing to Liberia, West Africa, and working out of Monrovia.

The vessels are *Boston Marauder* and *Boston Attacker*, both owned by Boston Deep Sea Fisheries Ltd. They have been laid up for some time having been hit by the

rise in fuel prices and the Oso agreement. The man behind the plan to take them to Liberia is Lebanese businessman Dib Kassabli who operates a fishing company in Monrovia.

Acting as negotiator for him is chartered engineer Colin Hughes of Liverpool. Mr. Hughes said that Mr. Kassabli has asked for his help in buying two new ships for his fleet.

As a Lancastrian he had immediately thought of Fleetwood.

Mr. Hughes said: "The deal is very near completion. The two ships are in excellent condition — they will outstrip anything in that part of Africa."

He added: "The ships will operate out of Monrovia. They will be fitted with fish refrigeration gear and air conditioning."

"The men who go on the trip will be on a minimum of a six-month contract. They will be well looked after. They will receive a lump sum payment in American dollars and will be in line for bonus payments."

### No auction

He said the fish that was landed would not go up for auction. "It goes direct to a fish processing factory. The value of the catch is assessed by particular prices being put on particular varieties."

"There is no limit to what the men earn. It is up to them." He said that after six months if the men wanted to return they would get their air ticket. But he added: "If they were happy with the job — and I have been there and can't see why they wouldn't be — a further contract will be offered to them on renegotiated terms."

*Boston Marauder* was built in 1958 as *Captain Hardy* for the Iago Steam Trawler Co. and *Boston Attacker* was built the year after as *Captain Fremantle*. The joined Boston when the Iago firm was taken over.

## CUT-PRICE HULL OFFER BY TREEVE

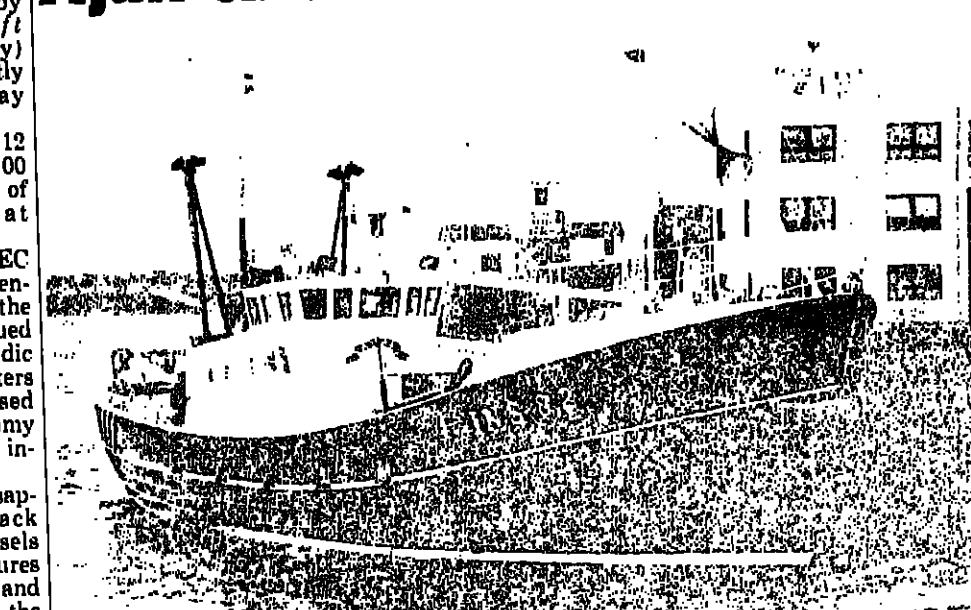
A 25 FT. GRP hull complete with frames for £1,200 is the tempting introductory offer now being made by Treeve Marine of Hayle, Cornwall.

The hull, which was to have been produced at the Porthleven Shipyard, has been taken over by Treeve in association with Dennis Swire, formerly of the Porthleven yard. The first hull came out of the mould earlier this month.

It's only the first half-dozen Treeve-Porthleven 25 hulls which will sell for £1,200, the full price is £1,350. Main dimensions are: beam, 8ft. 9in., depth, 4ft. and draft, 2ft. 6in.

A drawing of the hull, complete with net hauler and inshore sail, was displayed at the West Country Boat Show at Plymouth during August.

## Ajax smashes seine net record



The Scottish seiner *Ajax* landed 1,020 kits at Peterhead to hoist the earnings record post the £18,000 mark.

A NEW Scottish seine net record for a single trip has been set at Peterhead by Skipper Willie Campbell and his crew of the *Lossiemouth* vessel *Ajax*. Her landing of 1,020 boxes of white fish grossed £18,029.

It was only a week previously that Skipper Willie More of Burghhead and his crew in *Defiance* snatched the record from Skipper Dave Smith of the Kirkealdy-registered *Argonaut IV*. That record grossing of £14,172

came from 753 boxes during a five-day trip.

Skipper Campbell and his crew had a seven-day trip in making their record haul. Both *Defiance* and *Ajax* were built by the Campbelltown Shipyard.

## £84 for first box

THE RECORD price of £84 was paid for the first box of haddock from the maiden catch of the new Aberdeen boat *Helene* at her home port on Tuesday.

Skipper William Malcolm of Stonehaven completed an eight-day trip and the Lewis-built boat landed 545cwt, which grossed £7,725.

The money raised from the first box will go towards the Aberdeen lifeboat fund.

Fred Freeland, of Allan & Day Ltd., received the traditional new hat. The salesman was Alan Mitchell of the Don Fishing Co.

## BOATS COLLIDE

THOUSANDS of pounds worth of damage was done to a 38 ft. Plymouth fishing boat when she collided with an Iranian warship in Plymouth Sound.

The collision happened at night as Skipper Barry De Caen was bringing *St Etienne* into Plymouth through the western entrance of the breakwater.

He said: "I cannot com-

ment on the cause of the collision for insurance reasons, but my wheelhouse has been smashed, the mast twisted and the railing bent. There was just myself and one hand on board."

*St. Etienne*, her holds full of cuttle fish, was in collision with the Iranian Navy Ship, *Zaal*, at present undergoing a refit in the Devonport dockyard.

## JOHN HEPWORTH

JOHN (Jack) Hepworth, managing director of J. R. Hepworth & Co. (Hull) Ltd., and one of the co-founders of the Paull Shipbuilding and Repairing yard on North Humberside, has died aged 71.

He began business on his own as a ship repairer at Hull's Queen's Dock after completing his apprenticeship as a plater. Then, 43 years ago, *Boston Deep Sea Fisheries*

## OBITUARY

two brothers, Harry and Fred, he became co-founders of the Hepworth firm whose Paull yard was established on the Humber river front. New boats from the yard have included four boats for Peter Heag, owners, and three for *Boston Deep Sea Fisheries*.

## What's so special about the Redifon Loran C Navigator?

The answer is that the Redifon Loran C Navigator LRI gives you Loran C navigation at its best. It is completely automatic, has a continuous Loran C position, fixing — the world's leading coastal and medium range navigation system — the world on all classes of commercial and naval vessel — from small fishing boats and patrol craft up to the largest deep sea ships.

It gives absolute position fixing to within 100 feet and rendezvous accuracy to within 30 feet.

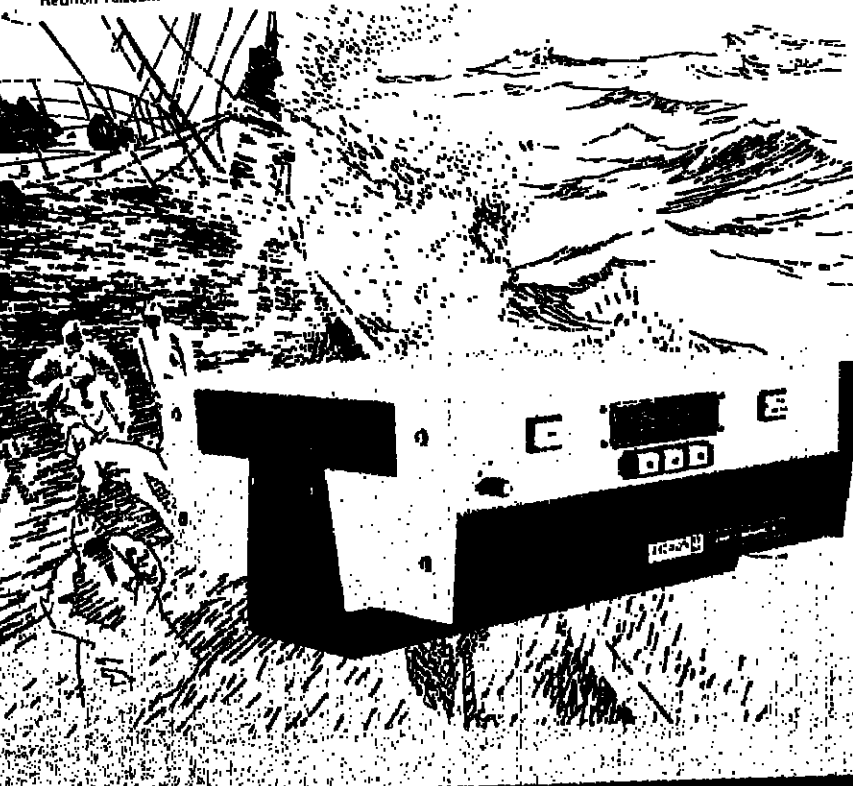
Add to these advantages Redifon's long standing marine expertise and worldwide service network, and you can't fail to have complete confidence in Loran C position, fixing — the world's leading coastal and medium range navigation system.

Why not call us and get the full story?

## REDIFON TELECOMMUNICATIONS

...on land and sea

Redifon Telecommunications Ltd., Broomhill Road, Wandsworth, London W8 7JL. Tel 01 874 7281. Telex 828229





## EAST COAST FISH SALES CO LTD urgently require

SKIPPERS, MATES AND CHIEF  
ENGINEERS WITH CURRENT FISHING  
TICKETS OR HOME TRADE TICKETS  
FOR OIL RIG STANDBY VESSELS  
SAILING FROM LOWESTOFT.

Please reply in writing to  
EAST COAST FISH SALES CO LTD  
11 WAVENEY ROAD, LOWESTOFT, SUFFOLK NR32 1BN



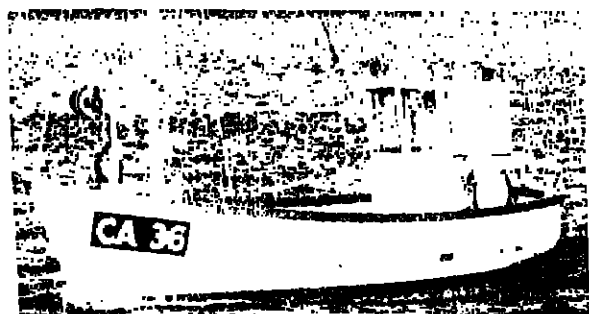
## HYDRAULIC PUMPS & CLUTCH UNITS

## NYLON MONOFILIAMENT & BRAIDED LINE

### SPENCER-CARTER

KERNICK ROAD, PENRYN, CORNWALL  
Telephone: Penryn (0328) 73423. Telex: 45489

## SALTRAM 24



Completed craft to any  
specification from £5,000

Hull mouldings  
from £855

K. R. Skentelbery & Sons Ltd, Saltram Developments,  
Laire Bridge Boatyard, Laire Bridge Boatyard,  
Plymouth Plymouth  
Telephone PLYMOUTH 42385



S.M. Wills

## WILLS-RIDLEY HYDRAULIC STEERING GEAR

Hand or power hydraulic for  
craft from 25ft. — 150ft. in  
length.  
Power assisted conversions of  
hand hydraulic steering gears  
a speciality.

Winterstoke Road, Weston-super-Mare,  
Somerset. Tel: 0934-28114  
Telegrams: Steering, Weston-super-Mare.

## ALEXANDER NOBLE & SONS LTD. BOATBUILDERS - GIRVAN

Quotations and designs for new  
vessels — repairs on our own  
slipways up to 150 tons — all types  
of machinery installed.

Ring  
TEL: GIRVAN 2223



WAYDON  
Mouldings Ltd.

Tel:  
BURTON  
LATIMER  
3488

LOBSTER POTS  
Moulded in Polypropylene  
giving a very tough pot.  
Detachable base for inter-  
stacking during carriage.  
Available ex-stock!!!!  
at £4.20 + VAT & Carriage

Finedon Station Road, Finedon  
Wellingborough, Northants.  
For deliveries in Ireland contact: Coastal Holidays Marine,  
Pier House, Glenties, Co. Lond. Tel: Lond 931

# First for Irish trawler 'MARY AGNES' LANDS IN DENMARK

THE 128 ft. Rosslare  
trawler *Mary Agnes*  
made history last  
weekend when she  
became the first big  
Irish vessel to land her  
catch in a Continental  
country.

*Mary Agnes*, Ireland's  
biggest fishing vessel  
which is owned by the  
Dorle Fishing Co. Ltd.,  
landed a North Sea catch  
of blue whiting from the  
Fladen Bank at  
Hanstholm, in north-west  
Denmark. She made more  
than £10,000.

It is only a year since  
she arrived at Rosslare  
harbour to end her

maiden voyage. Since  
then she has operated in  
the Atlantic, off the north  
coast of Scotland and in  
the North Sea.  
James V. Doyle,  
managing director of the  
owning company, has  
gone a long way towards  
proving that Irish

trawlers like *Mary Agnes*  
— which was built with a  
Bord Iascaigh Mhara  
(BIM) grant — can be  
economic.

## 'Bengali' raised

THE fire-gutted trawler  
*Bengali* which sank at  
Liverpool Docks in July  
was raised last week.

The engine was taken out  
of the 75-footer soon after the  
fire and she sank due to rain  
and other factors. Now,  
however, she has been floated  
and pumped out by the  
firebrigade.

*Bengali* is owned by  
Skipper Ron Halladay of  
Downham Market, near  
King's Lynn, who may take  
an offer on the vessel as she  
stands.

The boat was raised by J.  
W. Automarine of Holt, Nor-  
folk, which specialises in  
manufacturing PVC rein-  
forced air bags, also using  
them or hiring them out.

J. W. Automarine recently  
hired out some air bags to a  
firm to raise the French  
wooden 69-footer *Triton*  
which sank with hull damage  
about five miles off the coast  
of Brittany. She has now been  
scraped after being raised 150  
ft. and towed in and beached.

## Congratulations to Matt Hutchinson, Whitby

from Cygnus Marine, Falmouth,  
builders of his new GM36

## "ENDEAVOUR A"



CYGNUS MARINE LIMITED

Tregonnigie Industrial Estate, Falmouth,  
Cornwall TR11 4RX Tel: Penryn 72570

## ROAD RATES JUMP

ROAD transport rates for  
fish from Hull to some  
parts of the country  
jumped last weekend.

Increases ranging from 15  
per cent for fish to certain  
land wholesale markets, up  
to 25 per cent to other  
markets, were the outcome  
of talks between Hull Fish  
Merchants Co. Ltd. and the  
Road Transport Ltd., the  
main transporter.

The reason for the increase  
of traffic rates is thought to  
be a decline in Hull fish land-  
ings and increased costs for  
the last 14 months when  
haulage prices were last raised.

Rates for fish deliveries  
London's Billingsgate  
market, and those within  
to 80 mile radius of Hull, are  
not be affected by the  
increases.

Distribution to these areas  
is by other haulage firms  
which operate at set  
routes, as opposed to the  
nationwide fish distrib-  
ution service given by  
Lis Transport.

## GEAR AND MAINTENANCE PRODUCTS AT COMPETITIVE PRICES

Delmar lobster & prawn  
Dunlop tires & wheels  
Hydraulic steering gear  
cutters — anomalous  
blocks — winches  
gas heaters — Poly rope — plastic  
slips — PVC & nylon rope —  
diameters.  
Little Ship paints & oils  
Boatlife caulking compound  
naked varnish — Antifoul  
Nitromors — Copal Bays  
brushes etc.  
WRITE OR PHONE FOR PRICE LIST  
AND DETAILS OF THE EQUIPMENT  
YOU WANT

## MARINAC FISHING SUPPLIES

7 Scotland Street, Glasgow G1  
Tel: 421 429 5017 4230

# FOUR DIE IN 'SIOUX' GALLEY BLAZE

## Mission starts appeal

THE FOUR men who  
died in a blaze on the  
multi-purpose trawler  
*Sioux* at North Shields  
on Thursday last week  
probably knew nothing  
about the fire, the in-  
quest was told last  
week.

All four had been drinking  
and they died of carbon  
monoxide poisoning as a  
result of the smoke.

The bodies were found in  
the galley and sleeping  
quarters of the Grimsby  
trawler *Sioux* only hours after  
the boat's catch had been  
landed.

A pathologist, Dr. Ian  
McLeod, said: "The alcoholic  
level in their blood indicates  
that they would be somewhat  
sedated and it could be  
enough to keep them asleep."

"Their deaths would not be  
painful and they probably  
knew nothing about the fire."

The coroner, Brian Gallon,  
adjourned the inquest for  
further inquiries into "the ac-  
cidents and movement of the  
vessel before the fire".

The four men were named  
Smith (36), married with  
three children; Derek Paul  
Stephens (38), married with  
two children; and David Roy  
Robinson (38), a single man,

all from the Grimsby area;  
and Alexander McLeod (32)  
of Oulton Broad, Suffolk,  
who had four children.

Mr. McLeod was not a  
crewman, but had earlier  
stood in for a fourth Grimsby  
man, when the seven-man  
crew unloaded the catch, who  
had been allowed to leave  
*Sioux* directly she arrived at  
North Shields to celebrate his  
21st birthday with his family.  
He is Graham Hall.

The other three crew  
members, including Skipper  
John Oliver-Lowe, are North  
Shields men who returned to  
their homes ashore after dis-  
charging the catch.

Now, an appeal fund for  
the dependents of the men  
who died is being set up on  
Tyneside by Superintendent  
Stephen Cross of the  
R.N.M.D.S.F. at North  
Shields.

Three fire engines rushed  
to the boat when flames were  
spotted coming from the

galley around 3 am. Firemen  
using breathing apparatus  
immediately went aboard  
and recovered the men, but  
after being speared by am-  
bulance to Tynemouth  
Jubilee Infirmary they were  
all certified as dead on  
arrival.

The fire is believed to have  
broken out near the oil-fired  
galley stove where some  
sausages were found in the  
oven.

Two of the bodies were  
found in berths in the sleep-  
ing quarters, on the same  
deck level as the galley, a  
third was at the foot of the  
wheelhouse steps and the  
fourth inside the galley.

*Sioux* is equipped with an  
escape hatch from the sleep-  
ing quarters on to the fore  
deck.

A senior fire officer com-  
mented that the fire, although  
confined to the galley, had  
been extremely fierce and  
there had only been heat and  
smoke damage in other parts.

It is the worst tragedy for  
a Grimsby fishing since three  
men were lost when the seiner  
*Murena* disappeared in a  
hurricane early in 1975.

*Sioux* is one of the most  
modern vessels on the east  
coast, being completed last  
spring. She is rigged as a fly-  
shooting seiner and had just  
returned from a five-day trip  
with a catch of 186 boxes of  
mainly cod and haddock.

She is owned by a company  
within the Tom Sleight (Fish  
Salesman) Ltd. organisation  
of Grimsby and a spokesman  
for the firm told *Fishing  
News*: "We are stunned by  
the tragedy and still picking  
up the pieces."

"It is hard enough when  
lives are lost at sea, but to die  
in harbour after a successful  
trip is a terrible thing to  
happen."

He paid tribute to the dead  
crewmen and said they were  
excellent fishermen who  
would be difficult to replace.

*Sioux*, a sister-ship to the  
highly-rated pair trawlers,  
*Mohave* and *Shannon*, is now  
expected to be out of fishing  
until the new year.

The fire damage was put in  
the region of £30,000 and a  
number of ship-repairing  
firms will tender for the  
repairs.

# WHITE SEA IN 20 DAYS

AN outstanding White  
Sea plaice catch has been  
brought in by the  
Fleetwood side trawler  
*Ella Hewett*.

The vessel has been con-  
fined to middle-water  
grounds in recent months, but  
her owners decided to send  
her to the White Sea.

Skipper Jim Buckley made  
the long steam and im-  
mediately found good fishing.  
She returned as early as  
possible to ensure the best  
possible quality with the  
result that *Ella Hewett* land-  
ed after only a 20-day trip —  
one of the shortest White Sea  
voyages ever made by a  
Fleetwood trawler.

She put ashore 1,125 kits,  
including 1,050 of plaice,

which sold for £30,841 — an  
outstanding effort.

This catch was not enough  
to give *Ella Hewett* top ship  
honours. This fell to the stern  
trawler *Boston Blenheim*  
which continued an excellent  
run under Skipper Bob  
Rawcliffe.

She returned from Iceland  
with 1,481 kits, including  
more than 1,200 of cod and  
100 of coley, which sold for  
£37,238.

Believed to be the first  
sturgeon landed at the har-  
bour in five years, the 2 st. 9  
lb. fish, some 5 ft. long, sold  
for £1-a-lb., a total of £27. It  
was caught by *Kilravock* and  
bought by Cornwall  
Fishermen Ltd.

The tuna weighed in at 7½  
cwt and was caught by *Arlene  
Margriet* while mid-water  
trawling for mackerel  
between the Lizard and the  
Wol Rock lighthouse.

The 50 ft. Plymouth-based  
trawler is skippered by Chris  
Spencer and owned by a  
Channel Island firm.

The tuna was bought for  
£87 by Suttons (Cornwall)  
Ltd.

O'DRISCOLL Boatbuilding  
of Passage West, Co. Cork,  
has ordered another six GRE  
hulls from Cygnus Marine.  
This new order for five GM28  
hulls, and one GM36, means  
the yard now has 16 Cygnus  
GRE hulls on order.

A 30-ton mobile crane was  
brought to lift her at Penryn  
Quay, Cornwall, on to Ken  
Brown's boat transporter  
from Emworth.

The trip home was to take  
three days as regulations re-  
quire wide loads to travel in  
daylight and with a Police  
escort on a selected route.

However, a head gasket  
leaked badly and, later, the  
resulted in engine failure. She  
stayed on moorings in a  
neglected and sinking state  
for over a year, once having  
to be pumped by the local fire  
brigade.

The owner has recently  
sold her to his brother

# DON'T STOP

FISHING BECAUSE OF FRAYED  
ROPE OR BAD SPLICES

## OUR UNIQUE ROPE REELS

take such things in their stride. A  
slot in the main flange allows damaged  
rope to be guided on to an auxiliary  
drum, without the need to stop the  
reels or winch. These reels are available  
in three sizes.

FISHING HYDRAULICS' Rope Reels now  
being fitted to "SCARLET THREAD", a new  
vessel in construction at the Malahide  
Shipyard, Dublin, and to "CELESTIAL  
DAWN", an existing boat being fitted out  
at Meaduff.

## FISHING HYDRAULICS (Scotland) Ltd.

STATION BRAE, ELLON, ABERDEEN, SCOTLAND  
Tel: 0358 20717. Telex: 73355

Agents for FISH & SHIP GEAR A/S & RAPP FABRIKKER  
A/S

18ft. TROJAN Inboard powered Steel Drift. 18ft x 8ft 6in  
draught. 18in over keels. Stern gear mounted in protective  
tunnel.

Price from £1,750+VAT



E. S. J. Engineering Co.  
Island Street,  
Salcombe, S. Devon.  
Telephone 2888

Powered by a Lister SRI MG  
8.75 h.p. engine

## FISHERMEN'S MISSION

SERVING and CARING  
For Shipwrecked, Sick,  
Distressed, Disabled, Retired  
and Sea Going Fishermen  
their Wives, Widows and  
Children

## THIS IS OUR BUSINESS

Will you share in this ministry by  
sending a generous donation to  
Royal National Mission to Deep Sea  
Fishermen

43 Nottingham Place,  
London W1M 4BX

Chairman: Admiral Sir Charles Madden, Bt., G.C.B., D.L.  
Secretary: J. C. Lewis Esq., O.B.E., J.P., F.C.I.S.



Patron H.M. The Queen

64 years constant service to fishermen and their families



## Specify POWERLIFT

for your vessel

Complete range of haulers to suit your requirements with hauling capabilities of: 900lbs, 1400lbs, 2000lbs.



Self-hauling sheave



Capstan



Combination



POWERHAUL seine/trawl winch 2000lbs pull

Full installation kits can be supplied 12 months warranty W.F.A. approved

AGENTS REQUIRED IN ALL AREAS

**POWER ENGINEERING (Int.) LTD.**  
Adelaide Road, Bray, Co. Wicklow, Ireland.  
Phone 860462. Telex: 30298.

UK distribution: Colin Manning  
20 Hirlon Estate, South Stack Rd, Holyhead,  
Anglesey, Wales. Telephone: Holyhead 4415.

## BOAT BUILDING TIMBERS

- Butts of Oak, Larch, Iroko and Oak Crooks all sawn through and through to any thickness.
- Kiln dried and machined Yang Decking.
- Complete sets Oak frames bevel sawn to your patterns.
- Delivery to all parts Scotland, England and Ireland.
- Oslo spruce poles for derricks etc.

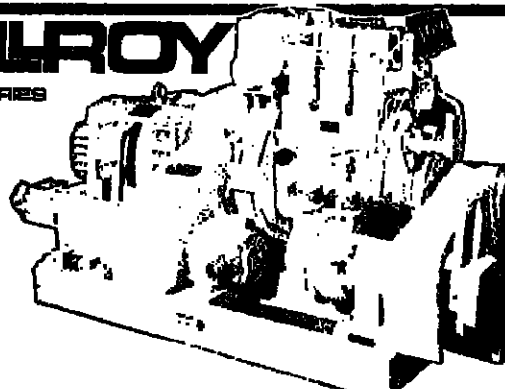
**W. S. BARCHARD & SON LTD.**

WEST DOCK STREET, HULL

Tel: Hull 0482-28588 (5 lines) Telex: 52528

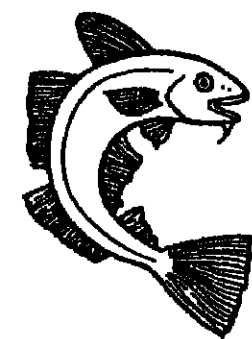
## GILROY

AUXILIARIES



Comprehensive range of auxiliaries designed and built to suit individual requirements.  
For further details write to:

Wilmar Engineering Services (Aberdeen) Ltd.  
Craigshaw Road West Tullos Aberdeen



## IT'S STILL NOT TOO LATE

to order books on commercial fisheries and aquaculture for Christmas presents. We can post by return (or on a specified date) all paid orders, and will enclose FREE a Fishermen's Mission Christmas card with your name and message.

Send details of your needs or ask for catalogue with special offer order form.

**Fishing News Books Ltd**

1 Long Garden Walk, Farnham, Surrey  
Telephone (025-13) 25858

## VERSATILITY WORKBOATS

DESIGNERS and BUILDERS OF HEAVY DISPLACEMENT WORKING CRAFT UP TO 16 TONNES

In Glassfibre Reinforced Plastic in full form or any stage of completion.  
Contractors to: H.W. Ministry of Defence

Designs Approved by: The White Fish Authority & The Department of Trade and Industry

## New way to beat corrosion

I HAVE received scores of letters from readers faced with underwater corrosion problems.

Either the propellers and shafts of their boats have been suffering from pitting, skin fittings have been disintegrating or their rudders have been about to drop off because of eroded fittings.

In most cases the solution has seemed to be to fit suitable cathodic protection anodes. Coating a propeller with plastic or applying a particular composition to metal fittings rarely solves the problem satisfactorily.

Now it is possible that coating a vulnerable fitting with a particular composition might provide a solution to such problems which is both economical and effective. For a product called Sea Skin has recently become available.

Developed by the American Spex Corporation, which has had much to do with coatings for space craft, Sea Skin is a silicone coating designed to solve corrosion problems in two ways.

It has very high dielectric strength which minimises electrolytic corrosion because it forms an insulating layer between metal fittings and non-charged sea water. And it forms a skin which cannot oxidize and so affords protection against all other corrosive influences.

Not only is it claimed that Sea Skin will protect underwater metal fittings and, presumably steel hulls as well, against corrosion, but that it will also protect them against fouling organisms.

It could, therefore, be a composition which will solve many problems for boat owners. It might also solve some for makers and users of metal pots and creels.

Sea Skin is available from Spex Sales, Metro House, Second Way, Wembley, Middlesex.

## CHEAP AND STRONG FENDERS...

"OUR SMALL harbour is becoming so congested that we often have to lie alongside the quay or other vessels in tides."

"Although both cylindrical and round inflatable floats make good fenders, their use is costly as they get worn or damaged if not used correctly."

"Fenders made of wood rods bound together to form cylindrical fenders used to be used in such circumstances. They cost little, would withstand an immense amount of bumping and boring without suffering damage and are economical to use."

"Do you know if we can get them anywhere nowadays?"

■ Fosbery and Co. Ltd. of Barking, Essex, can supply

## John Burgess' Log



## Barges

I understand that they are used in large numbers on barges and lighters in the Thames, so they must be able to withstand a lot of punishment.

If they are not what you want, the company is always willing to make special sizes to order if you specify your exact requirements.

It has been making

traditional types of fender—mostly of rope—many years. And should your Turk's Head, stem, etc., quarter fender made of rope, it can supply the round fenders made of cork encased in closely woven rope. And it can supply a wide variety of buoys, lifebuoys made of cork, and lifejackets in production to meet the 1980 SOLAS requirements. And it can supply a very comfortable buoy waistcoat.

Although not made to official specifications, it is a type of jacket you would like to have handy when the water. You can slip it on and lash it around you in seconds.

## Protection

Although fenders, lifebuoys and jackets are principally 'Fosco' products, the company also makes a most interesting item known as a Brewer's Bed.

Although designed primarily to ensure safe landing of beer barrels and wine casks, Brewer's Bed could effectively protect wooden decks from damage when drums of fuel or lubricating oil are being brought aboard.

Full details and prices of rod fenders and of all other 'Fosco' products are available from Fosbery and Co. Ltd., Block G, Abbey Industrial Estate, Barking, Essex.

## Picking the right battery

IF YOU are equipping a new boat or re-fitting an existing one and are faced with the problem of selecting suitable batteries to meet your power requirements, you may find a brochure recently issued by Oldham and Son Ltd., Denton, Manchester, of some considerable assistance.

It lists the factors which govern selection and provides tables to enable you to choose those most suitable for engine starting, and supplying current for stationary power, emergency power and power

underway. It contains some useful tips on maintenance and a description, as well as illustrations, of the Oldham Safety Vent Plug. This is a device, which satisfies Lloyd's Register of Shipping requirements as regards battery construction, and spillage of acid, which however much a vessel may roll, and pitch, in rough weather. It also reminds you that it is essential to raise voltage in a battery when the engine is running, and to check the voltage when the engine is stopped.

## WFA sells last of Robinson fleet

PRISCILLIAN, the trawler which remained unsold after the White Fish Authority repossessed the eight-strong fleet of trawler owners Sir Thomas Robinson & Sons (Grimsby) Ltd., has now been sold off.

The WFA, however, would not release details of the new owners as an earlier deal for the vessel fell through at an advanced stage and it wanted to make certain there are no snags before naming

the 15-year-old trawler's new owners.

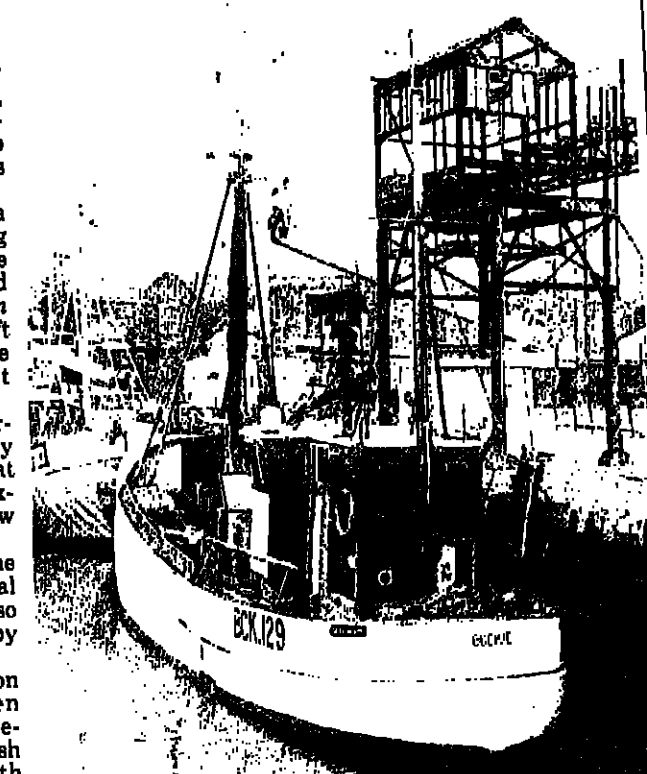
Meanwhile, the other seven vessels have now begun new careers. Rhodessa, the only vessel to remain in Grimsby, landed her maiden trip under the Taylor colours last Friday, grossing 211,374 after a 16-day Faroes/Westerly trip with Skipper George Loades in command.

Philadelphian, sold to a Belgian owner, is undergoing a refit in Grimsby before crossing the North Sea and Samarian, Judean, Tiberian and Thessalonian had all left the Humber port to join the Colne Fishing Co. at Lowestoft.

This left only the 22-year-old Olivean, also bought by the Lowestoft firm, still at Grimsby. But she was expected to leave for her new home port early this week.

On the inshore scene, the 18-year-old Danish industrial fishing trawler Elsi Muff also changed hands at Grimsby last week.

It is understood the 45-ton wooden vessel has been bought to work as a single-boat trawler for white fish from North Shields with Richard Irvin & Sons Ltd. as major shareholders.



Elsi Muff in Grimsby last week under British registry.

## NEW BOAT MAY GO TO MILFORD

THE 80FT. stern trawler pictured being towed out of a shed in Fishing News, October 15, has been named as Saria and she may join Milford Haven's fishing fleet soon.

She was built in an old railway shed by Brian Llewellyn, a marine engineer, with the help of his father and teenage daughter.

Saria has been purchased by the London-based firm, Russ Reed, which plans to work her out of Swansea and Milford Haven.

## Billingsgate

PERHAPS IT would be as well to explain to those readers who do not know the geography of the market that the main building is divided by seven aisles from front to back and four from side to side. Each of the side walls are lined with shops which have storage basements below and offices above.

There is a certain amount of competition to take over the shops with their added convenience of integral storage and office facilities and also for those stands in favourable selling positions.

Normally these desirable sites only become available when the occupying firm ceases to trade and then a re-allocation is decided on by the market authorities. It is not known what precisely influences the decision to let a shop or stall to a particular firm, but past experience suggests that seniority in the market and volume of trade are important factors.

There has, in recent years, also been the necessity to relocate businesses which were formally situated in the area north of Thames Street which is being redeveloped.

An interesting variation of this theme has recently occurred. The firm of Minch Wholesale Ltd. is a relative newcomer among the market traders, where firms often count their age in generations. It was sited on a rather narrow stand in the centre of the market, not on one of the favoured corner sites on the first lateral aisle, and its lobster selling operations were conducted from another stand a further aisle away.

The business seemed to prosper, aided by some aggressive salesmanship, and the development of such new lines as farmed salmon. Obviously more space was required, but seniority was limited. The chances of Minch being offered a shop were limited.

With admirable initiative it founded its own solution. The principal of the old established firm William Forbes Stuart, Alfred Johnson, felt it was time to retire and he had a very well sited shop. A private agreement was reached: Forbes Stuart became part of Minch Wholesale and one fine morning the stand was vacated and the shop was in full swing. All that now remains is for the lobster storage tanks to be installed.

No doubt the noses of those on the waiting list for a move have been put out but here is an active trading company fully utilising its premises, which is more than can be said for the occupiers of some of the shops.

Incidentally, Minch's former stand did not stay empty for long. A. H. Butler moved to it from its stand in the remote back corner of the market, a move perhaps dictated by the fact that it had been sandwiched in between two other rival shellfish firms.

## 'Innes' strengthens lead in Hull contest

NEWINGTON'S Hammond Innes has increased her lead as the 1978 Hull District Water Challenge Shield Competition enters its final quarter.

The top three positions remained the same in September.

Arctic Cavalier, lying second for a fourth successive month, was behind by 1,315 points in August and by 3,889 points at the end of September.

BUT's Ross Trafalgar, third for a second month, is now 4,891 points behind the leader.

Meanwhile, Newington has

three wet fish vessels in the top five. Hammond Innes, which has topped the competition tables for 33 months, Somerset Maugham, up from fifth to fourth; and C. S. Forester, which has jumped from seventh to fifth. BUT's Ross Altair, previously fourth, is down to sixth.

The latest list of placings, issued last week, covers the situation to the end of September, with allowances for trips started in September and ending in October.

Positions held in the previous table are in brackets.

	Kits landed	Points
1. (1) Hammond Innes (Newington)	22,942	35,232
2. (2) Arctic Cavalier (Boyd)	21,721	31,343
3. (3) Ross Trafalgar (BUT)	18,214	30,641
4. (5) Somerset Maugham (Newington)	21,172	30,002
5. (6) C.S. Forester (Newington)	18,389	29,662
6. (4) Ross Altair (BUT)	18,334	29,231
7. (8) Ross Canquair (BUT)	18,623	28,721
8. (10) Ross Sirius (BUT)	16,577	27,380
9. (11) Loch Eriboll (BUT)	16,386	27,011
10. (13) St. Dominic (Hamling)	18,591	26,350
11. (8) Ross Orion (BUT)	17,140	26,315
12. (12) Ross Leonis (BUT)	16,554	26,223
13. (14) Kingston Pearl (BUT)	18,941	25,304
14. (9) Benella (Marr)	14,810	25,058
15. (17) Ross Resolution (BUT)	17,121	24,880
16. (18) Kingston Amber (BUT)	16,492	23,798
17. (15) Westella (Marr)	14,608	23,750
18. (18) Arctic Vandal (Boyd)	15,853	23,301
19. (19) Lord St. Vincent (BUT)	16,077	22,992
20. (20) St. Geranthis (Hamling)	16,077	22,992

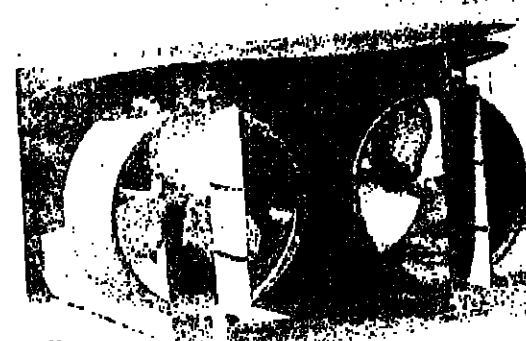
## 'PIONEER' RETIRES

A LOWESTOFT man who began his seagoing career nearly 50 years ago and helped train hundreds of fishermen has been praised for his service to the industry at a retirement ceremony. Charles Cook (62) began his career at 14 on sailing the Lowestoft Fishing Vessel 'Pioneer' and worked his way up in traditional fashion from cook to skipper.

Over a thousand fishermen can't be wrong to choose the

**ANSAX**

**PROPULSION NOZZLE**



THE ANGLO SAXON MARINE CONSTRUCTION CO. LTD.

4 Creechurch Lane London EC3A 5AY

England

Telephone 01 283 0188

Telex 8811714 Woodship

After Hours 01-594 5708

CONSULT THE EXPERTS



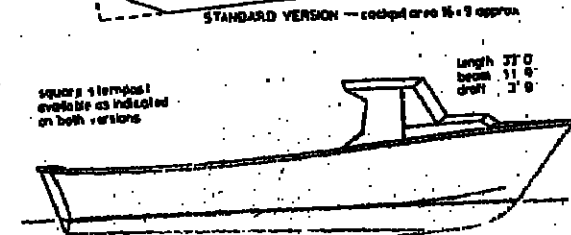
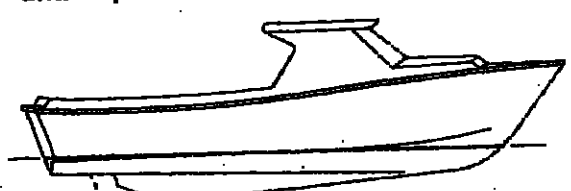
**Aeroquip**  
Marine

**GOODRIDGE AEROQUIP**  
The Goodridge Aeroquip range of low, medium and high pressure rubber and stainless steel covered hose with steel and alloy fittings in BSP/IC/Metric/NPT for all marine use including hydraulic oil, fuel and water lines etc. Used throughout the world on marine, industrial and aircraft applications these fittings and assembled lines are supplied from stock for all traders and fishing craft. Offering an exceptionally high degree of protection against corrosion high pressure and temperature vibration and abrasion — Aeroquip is a must for the fisherman.  
**GOODRIDGE (U.K.) LTD.**  
Collins Road, Totnes, Devon TQ9 8PJ. Tel. (0803) 862007

## LOCHIN MARINE

ROCK CHANNEL RYE SUSSEX  
Telephone Rye 3724

Moulded in GRP under ideal conditions to exacting standards, the Lochin "33" hull and superstructures are truly versatile.



Designer: Robert Tucker, A.R.I.N.A.  
BARE HULL WEIGHT: 2,300 lbs. Approx.

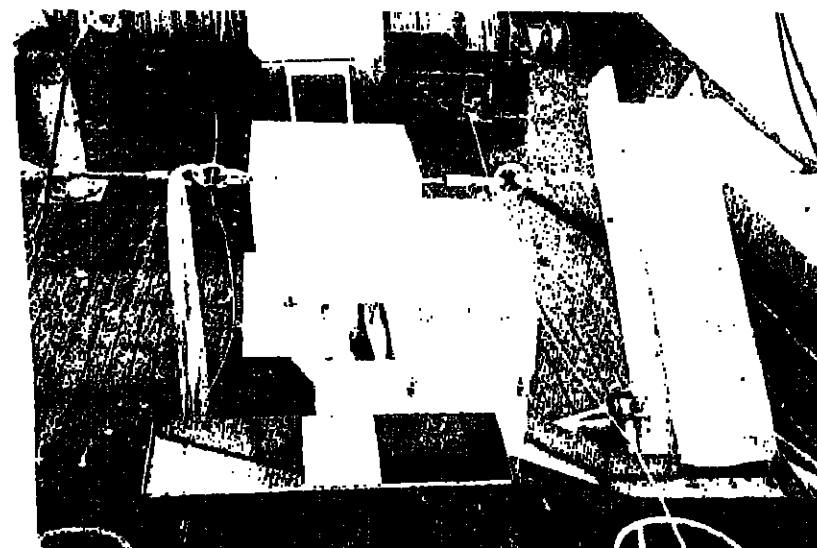
Part fitting out available. Details on request  
AS SHOWN AT CATCH 72

**FAST • STABLE • SEAWORTHY**

The choice of professionals who know the sea and demand the best.



# ABERDEEN'S 'BIG POCKET TRAWLER'



Above: Glen Clova's Shetland gutting machine and the conveyor which connects with the Cosalt fish washing machine (seen hinged back behind the fishroom hatch).



Above: Glen Clova's Humber St. Andrews hydraulic towing block. Below: a corner of her wheelhouse showing one of the Furuno echo sounders (left) and the Furuno FRS 48 radar.



**LATEST** pocket trawler to join the Aberdeen fleet is the 90ft. *Glen Clova* built by Cubow Ltd. of London for J. Marr (Aberdeen).

She is fishing under Skipper Kenneth Walker and landed her maiden catch last month.

Although similar in general layout to other pocket trawlers in the Aberdeen fleet, she has a number of significant differences.

With an overall length of 89ft. 9 in. and moulded beam of 23ft. 6 in., she is larger than the other local 'pocket' vessels. Her fishroom capacity is larger at 5,500 cu. ft. and she is also more powerful.

*Glen Clova* is the first Aberdeen pocket trawler to come from an English builder in recent years.

She is a very sturdy looking craft with a transom stern, well flared bow and soft nose stem. She has quite a deep freeboard.

An unusual feature for a pocket trawler is that her lines below the waterline, forward, are formed into a bulbous bow. With a registered length of 79ft. 11 in., she has a moulded depth of 13ft. and is classified at Lloyd's as +100 A1 Trawler.

Propulsion is provided by a B. & W. Alpha 407 26 VO seven-cylinder, two-stroke cycle, turbo-charged and fresh water cooled diesel engine which has a continuous service rating of 700

bhp when turning at 400 rpm. It has a maximum continuous rating of 770 bhp at 413 rpm and is capable of sustaining an overload of 840 bhp for half-an-hour.

The engine is coupled to a three-bladed controllable pitch propeller which has nickel aluminium bronze blades. The entire propulsion package, including propeller, shafting and controls, are of Alpha supply.

A 35kW 415V, three-phase, 50 Hz, Stamford a.c. alternator is belt-driven from a power take-off shaft at the fore-end of the engine. Also driven from the engine is a bilge and general service pump by Alpha.

Pelican Engineering Co. (Sales) Ltd. of Leeds assembled and supplied the two auxiliary sets which are based on Gardner 6LX six-cylinder and fresh water cooled diesel engines.

The starboard unit is started by hand and develops 102 bhp at 1,280 rpm. It provides power for a 35kW 415V, three phase, 50 Hz, Stamford a.c. alternator, a Hamworthy air compressor, a Gilbert Gilkes and Gordon bilge and general service pump.

Supplied with electric starting from its own battery, the port engine develops 119 bhp at 1,400 rpm and drives the Hydraulic Brattvaag type MA8 hydraulic trawl winch. It has two main drums, each with a capacity for 780 fathoms of 2 1/2 in. warp. Operation is by a

hand lever in the engineroom or through a hydraulic control in the wheelhouse.

Electrically-driven equipment fitted in the engineroom includes a Hamworthy air compressor, Mono domestic pressure sets, a Maag Milano standby lube oil pump for the Alpha engine-gearbox, plus a Gilbert Gilkes and Gordon 'J' type fuel transfer pump.

The electrical system works at 414V, three-phase, 50 Hz and is fed by the 35kW alternators on the main and auxiliary engines. Standby lighting is provided at 24V d.c. from batteries which are charged from a CAV alternator driven from one of the auxiliary engines. L.E.C. Marine supplied the deadfront-type main switchboard.

A total of 7,000 gallons of fuel oil are carried in tanks port and starboard in the engineroom, also in tanks fitted port, starboard and centre below the fishroom.

The daily service fuel tank holds 190 gallons. Permanent fresh water ballast is carried in the stern, while the domestic fresh water tank is fitted forward.

Layout of the deck has been arranged for starboard side trawling only. Fitted athwartships, immediately forward of the deckhouse, is the Hydraulic Brattvaag type MA8 hydraulic trawl winch. It has two main drums, each with a capacity for 780 fathoms of 2 1/2 in. warp. Clutches, brakes and

guiding on the deck are locally and remotely controlled with two electrically-driven drums.

The two sets are fitted with which have 11/2 in. sheaves on 1/2 in. bushes plus 1/2 in. Andrus and Andrews block is fitted on the block will lift.

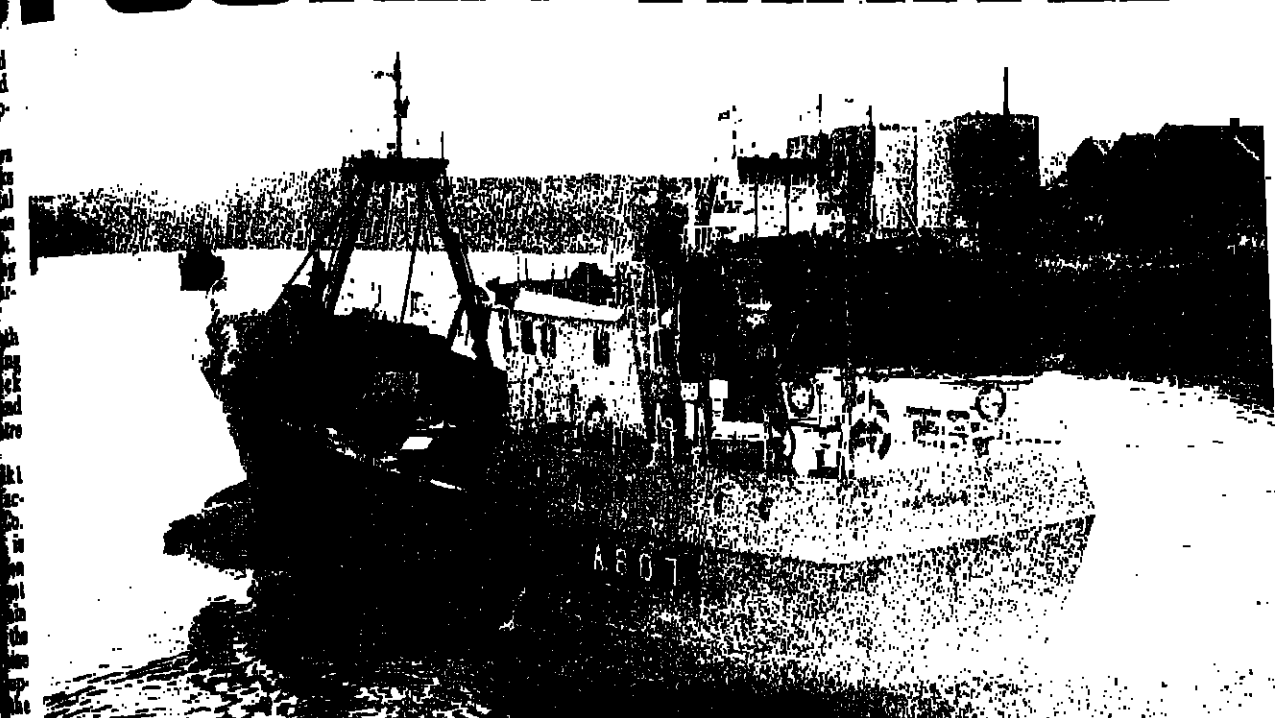
For safety, warps run through which are fitted between the wing bollards and bollards.

A Shetland gutting machine, fitted in a cage on the foreward of the deck, enables the crew to port himself on the boat's muzz.

Gutted fish are conveyed to a fish washer located in the hatch of the fishroom. The fish can be hinged back to the hatch free from the catch.

The trawl is towed with 2 1/2 in. portable steel wire being grooved in pound boards.

Insulated GRP-lined shelving is fitted in the



stanchions and Alcoa aluminium boards and shelves, and is fitted with two steel hatches.

The ice locker at the forward end of the fishroom is served by a scuttle fitted flush with the deck. Aluminium fish boxes from the Warwick Production Co. are used.

Fabricated of steel, the deckhouse extends to the port rail and right aft. The wheelhouse is particularly roomy and houses electronic equipment supplied by Redifon and Decca.

Units from Redifon include two Furuno FUV 11 Universal Graph echo sounders, Furuno FRS 48 radar with variable range marker, 'Sailor' R108 entertainments receiver, Redifon WK 2182 watch receiver, Sealord 30 vhf radio telephone and Redifon GR 477 SSB radio telephone. Decca equipment comprises Mk. 21 Navigator, 3507 Track Plotter and 450 Automatic Pilot.

Also fitted are a Kent Clear-View window screen and Tenford H115 ESG hydraulic steering gear.

The combined galley and messroom is located in the fore and of the deckhouse, below the wheelhouse. It is fitted with a Kempasafe type KS 3.5 9kW electric cooker, Eata deep freeze cabinet, Sadia electric water heater and stainless steel sink.

Other accommodation provided in the deckhouse includes a cabin for the skipper, a two-berth cabin for mate and engineer, plus toilet and shower facilities. Bunks for six are arranged in the crew's cabin below deck aft. Heating in the accommodation and

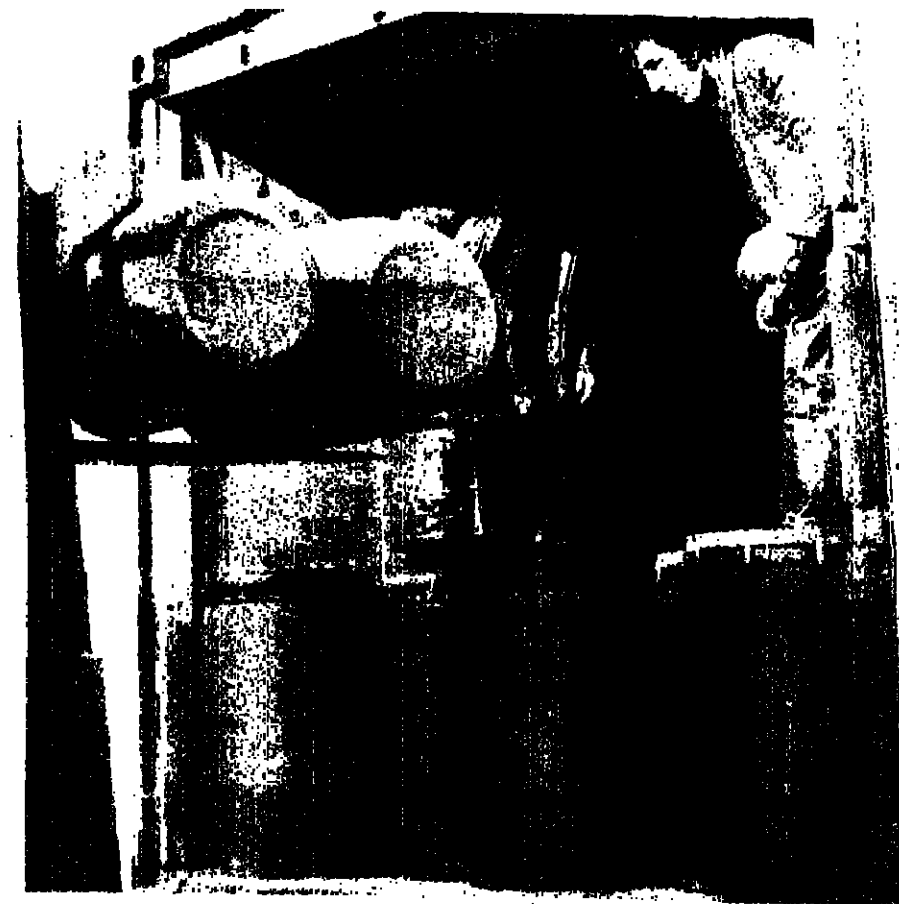
Above: *Glen Clova* at her home port of Aberdeen. She is around 4 ft. longer than most of the port's pocket trawlers. Right: looking aft along the trawl deck. When fishing a chute is fitted between the fish washer and conveyor (bottom right) which carries catches to the Shetland gutting machine.

these vessels, *Glen Clova* has her topsides painted yellow.

In all about 24 small sidewinders known as 'pocket' trawlers are based at Aberdeen. They have been built within the last ten years as economical replacements for larger and older side trawlers. The majority make trips of up to ten days to grounds to the west of

Orkney and Shetland. The majority are 86ft. long, with a beam of up to 22ft., being powered by engines of up to 680 hp. Almost all are of similar layout, being arranged for starboard side fishing only. The deckhouse is extended to the port rail and to the stern to provide roomy accommodation for the crew. Catches are normally boxed at sea and many of the pocket trawlers are fitted with gutting machines; also bipod/tubular steel mainmasts to allow more room on deck.

## IRELAND'S BIGGEST FISH EXPORTERS BANG THE DRUM FOR BOWATER MAUSER.



Loading Bowater Mauser Barrels of Irish Herring for Export.

The biggest fish exporters in Ireland have now standardised on Bowater Mauser open-top plastic barrels for curing and distributing their herring.

Like anyone in the business worth their salt, they took a long hard look at the facts before making this important final choice. And the facts about Bowater Mauser make impressive reading. **The first drum.** Bowater Mauser are the first plastic barrels in the Irish market to achieve a big proven record of success.

**The tough drum.** Thousands of Bowater Mauser drums are now making their third round-trip to the Continental markets. During the last fishing season, some travelled as far as America and Russia.

**The easy drum.** All the sales talk in the world means nothing next to the opinion of the men who actually pack and unpack the fish, the men who handle the full barrels. Their verdict? Bowater Mauser has the best shape for getting the job done fast and easily.

**The quality drum.** More and more people in the industry who deal in high quality fish are now turning to Bowater Mauser - the high quality barrel. Just as important for the future, highly critical herring mackerel consuming countries like Germany, Holland, Belgium and France have all taken to Bowater Mauser in a big way too.

**We can deliver Bowater Mauser drums in full and half barrel sizes at short notice.**

**Our Disley telex no. is 667583.**

**Bowater MAUSER**

Your best drum is the blue one.

Bowater Packaging, Drum Division, Disley, Nr. Stockport, Cheshire SK12 2EW. Telephone: Disley (06632) 2715

## Browse's offshore 'Crusader'

58 FT. long offshore crabber is the biggest to join the Browse's fleet. The firm's first new delivered with a haul pot hauler.

The craft is also one of the large wooden boats coming to DoT safety standard this has meant that the firm's first new delivered with a haul pot hauler.

The engine is built to lines by Gary Mitchell and used on previous 50 and 60 ft. boats from Mitchell's and one from his yard at the Browse's crabbing construction drawings produced by Alan

boat is built to the set traditional standards of frames and timbers and planking, while the engine and superstructure are constructed from plywood on iroko frame. The beam of 18 ft. and draft, a 7 ft. 6 inches.

A large engine compartment is located amidships, the fish hold forward has berths for four in a cabin, aft. The messroom are on immediately behind the house. A Color B700 provides cooking and the gas bottles mounted on deck.

A Gardner 8L3B diesel produces 230 hp and drives through a Twin Disc gearbox, type MC514, with a 3:1 reduction. The engine, gearbox and shaft bearings are all mounted on the same steel sub-frame.

The forward end of the engine belt drives from a layshaft the Hamworthy hydraulic pump via a clutch, the 14 in. Gilmech bilge and deck wash pump with integral clutch and a 90 amp alternator. This latter is in addition to the normal 70 amp engine driven alternator.

Four similar GRP-coated steel fuel tanks are positioned two on each side of the engine and these hold a total of 1,600 gallons. In the port forward corner of the engine compartment is a Blakes toilet housed in a separate compartment.

On the aft bulkhead of the engine compartment are mounted the electric-hydraulic pump for the steering gear and the oil-fired heater for the wheelhouse and accommodation.

The fish hold forward houses the reservoir for the hydraulic system. This powers the Celtic Slave pot hauler mounted to starboard, forward.

This is a special version of the recently-introduced Celtic hauler and is designed for a hauling speed of 300 fpm. The unit runs at constant speed under control of the crew.

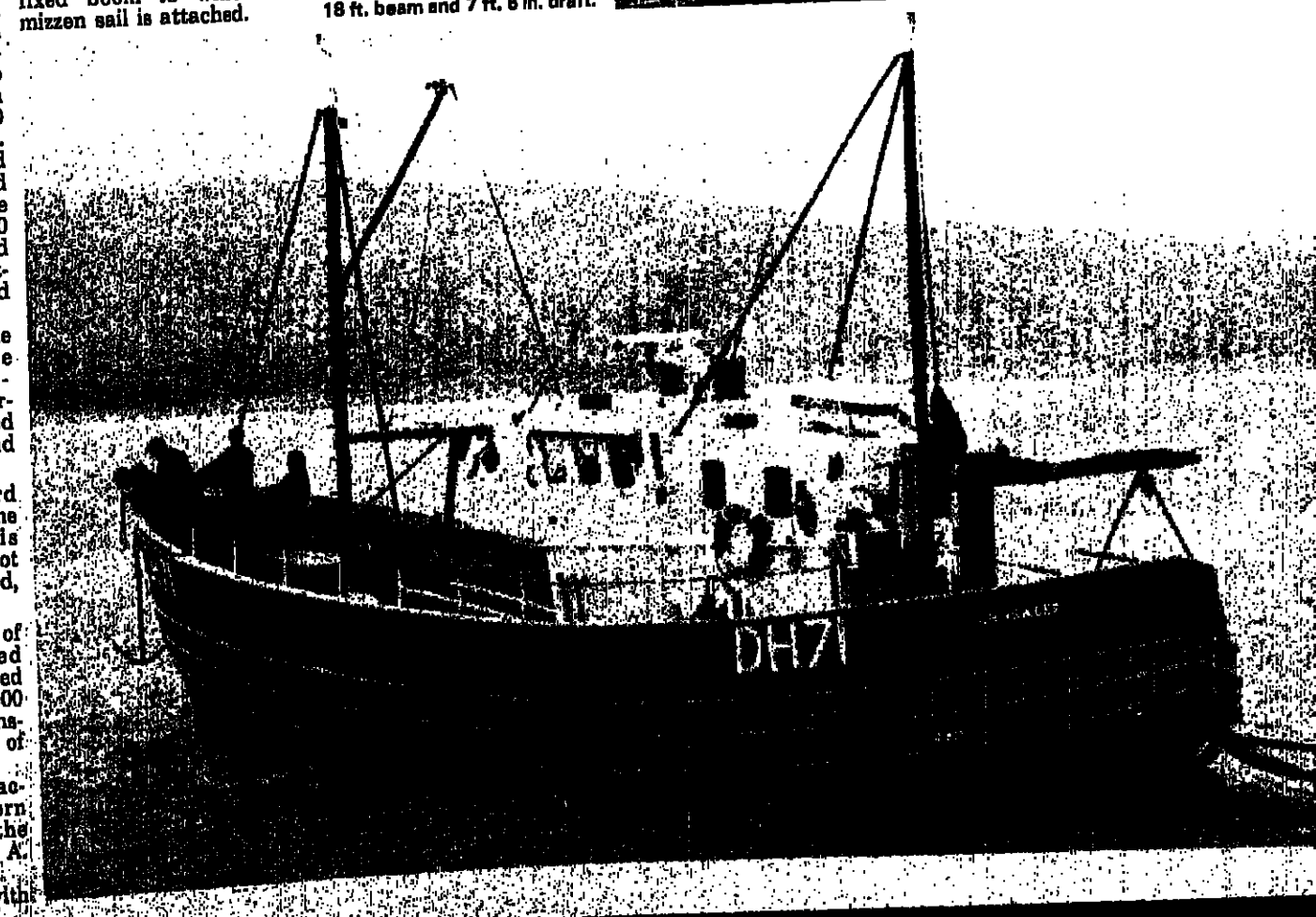
Designed and manufactured by South Western Mechanised Fishing, the hauler was supplied by A. Ray Burn of Plymouth. A tubular steel gantry with

an arm extendible over the side by means of a rack and pinion system, supports the hauling block. This is supported at its inboard end by the foremast which has tubular stays.

Apart from the fish hold hatch, the foredeck is clear. The mizzen mast supports a fixed boom to which the mizzen sail is attached.

The wheelhouse contains a comprehensive array of electronics including a Decca 110 radar, Decca Mk. 21 Navigator and a Simrad EY sounder. The radio installations comprise a 'Sailor' Turn to page ten

Below and right: two views of the Browse Bros. crabber *Crusader*. The 58-footer has an 18 ft. beam and 7 ft. 6 in. draft.





ALMOST every form of transport except boats and ships relies on standard forms of vehicles.

The advantages are many: production costs are reduced, much more time and effort is spent in getting the vehicle right and, above all, the prototypes are thoroughly tested and checked so that the safety of the production models can be guaranteed.

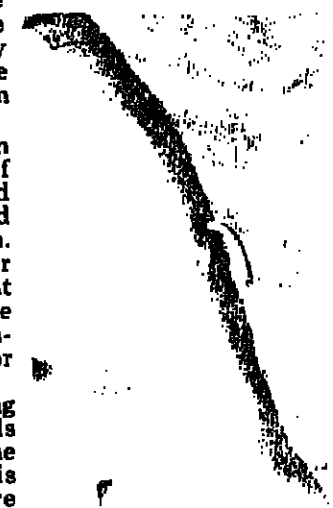
We see this particularly in aircraft where a certificate of airworthiness has to be issued before the plane can be used for commercial operations. Cars are similarly tested for safety and to make sure the car is in use. Why, then, cannot such a system be used for fishing boats?

A few firms are building standard fishing boat hulls particularly, of course, the GRP builders. From this point on, most boats are finished to the customers' requirements so that each boat has to be tested separately, with the result that there is very little testing carried out.

Most fishermen accept their boats from the builders after only a couple of hours trial run. This is all the WFA insists on. And the DoT safety rules call for an inspection of the boat and a stability test — not even a run at sea to assess how the boat behaves.

I am not suggesting that more serious testing of individual boats should be

## safety at sea



A hook in the arm is the sort of fishing casualty covered by First Aid for Yachtsmen.

carried out. This is up to the owner to do if he wants to do so, but most don't because it increases cost. Most owners are happy to assess their craft once they are in service and gradually adapt them to their own requirements. Safety, hopefully, comes with experience.

What I am suggesting is the development of standard designs of fishing boats which

can be thoroughly tested and evaluated before they go into service.

The prototype of each standard design can become a floating test bed and be put through a series of severe tests, both in harbour and at sea, so that by the time it goes into production it is a thoroughly tested boat.

Many fishermen will throw up their hands in horror at this suggestion. Most consider that their own particular type of fishing and the local conditions demand a particular type of boat.

This would have been true many years ago, but modern fishing boat designs have made boats suitable for a variety of conditions.

Look at the Cynos Marine GRP boats for instance. Their standard 32-footer has been sold for use in many parts of the British Isles and in several foreign countries.

Standard boats such as these already exist, but their engines and layout varies from boat to boat, so in effect each boat is still individual. If the thorough testing I suggest is going to be of benefit, then the boats will have to be standard down to their engines and systems as this is where many of the faults will have to be ironed out.

Obviously, any standard design must be flexible to a degree, particularly in matters such as deck layout, but this shouldn't be difficult to accommodate.

A dozen or so standard designs should meet most

requirements for boats up to 100ft. long. Above this size a lot more is known about the behaviour of craft at sea.

The problem is: who is going to develop these standard designs? This is where the DoT could show a much more positive approach to safety.

If it sponsored the development of standard fishing boats and carried out the testing programme, not only would fishing boats be safer, and probably cheaper, but the testing programme could throw up a lot of useful information about the behaviour of small craft at sea. This information is sadly lacking at present.

## Advance

An approach such as this would be much more likely to produce long-term improvements than the present complacent attitude of the DoT.

Its deputy chief surveyor recently stated in a paper which he presented to the Royal Institute of Naval Architects that he considered the new safety rules to be 'a tremendous advance in fishing boat safety'.

Quite how this conclusion was reached when only a very limited number of fishing boats have been surveyed, and the vast majority have passed the survey, is difficult to see.

Perhaps in two or three years' time it may be possible to see a reduction in casualties from the statistics. This could be due to the introduction of the safety rules, but it could equally be because the economic climate affecting the fishing industry has weeded out many of the older and potentially more dangerous craft.

With the industry in its present state of flux, it's going to be hard to draw any worthwhile conclusions from the casualty figures even assuming that they went into sufficient detail.

No, I don't think the rules are a tremendous advance in safety. And on another point, the DoT said that it was going to back up the rules with research into some of the problems which they had thrown up. It would be interesting to know just what research is being done.

## Accidents

Progress reports would be very welcome and should certainly be of interest to the industry. It's two years now since the rules were announced; surely some progress must have been made in the research projects.

On a very different subject, although very much connected with accidents at sea, is a new book just published by Adlard Coles Ltd. It's called *First Aid for Yachtsmen*, but don't let that put you off because it is written by a doctor with a lot of practical experience.

Robert Howarth goes to sea on Barmouth lifeboat and attends to many of the troubles afflicting Barmouth fishermen. He knows what it's like to be at sea with an injured or sick man and his book reflects this.

The book is couched in simple terms and tells you not only the immediate treatment but also the aftercare. Also whether the patient should be landed or not.

It goes on to tell you how to get help and advice when you are at sea and so can be thoroughly recommended to all those who have to face the prospect of being at sea with an injured crewman.

This is what I mean by a practical approach to safety at sea.

Dag Pike.

## Product News

### GURDY UP-DATED

SPENCER-CARTER, the hydraulics engineers and mackerel fishing gear manufacturers, has now updated its hydraulic mackerel gurdy.

The gurdy is available with a smaller capacity hydraulic motor and this enables it to be used on lower capacity pumps, yet maintain a good hauling speed.

The most common problem with hydraulic gurdy installations is that fishermen require very low revs on the main engine to maintain station over a shoal, with the result that the engine-driven pump cannot deliver enough fluid to operate the gurdy efficiently.

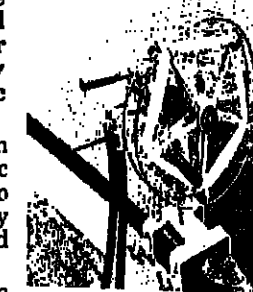
One way round this was to gear up the pump with the aid of different sized pulleys, but this presents another problem. When the vessel is steaming, the pump is turning far beyond its designed speed, usually 3,000 rpm.

Spencer-Carter developed a clutch pump incorporating a precision-made oil bath clutch, which has proved very successful. Like all well engineered pieces of equipment, however, it is rather expensive.

I am now using a Spencer-Carter gurdy on approval, and, having only a low capacity pump, the firm supplied the smaller capacity motor.

When working head to wind with the main engine at 500 rpm pulley ratio 1:1, the gurdy performed well. A very smooth dog clutch engages the drive, the gurdy wheel being merely pushed sideways to engage. The gurdy wheel is mounted on a roller race (something which would improve the standard hand gurdy) and turns very freely.

An automatic stop lever is fitted as standard, but the line guide eye is rather big, needing a very large swivel or bead on the trace to operate it, with the result that it will not go through the stripper. This is to be rectified shortly. The control valve is very positive, enabling the



Spencer-Carter's latest hydraulic gurdy — very useful for deep fish.

operator to power fit through the stripper and halt instantly if a foulhook or tangled fish is spotted.

Spencer-Carter supply easily-fitted self-seal connectors: the female connector is fitted to your own hose, valve and the gurdy pipe with male connector as snapped in.

When, for instance, you require the capstan to load, male connector which have been fitted to capstan pipes are clipped to the control valve.

It has been found that when fishing a few feet under the boat, it is quicker to use the gurdy manually. But the hydraulics really come into their own with deeper fish. Frequently, half stings of large fish are found deep at 20-30 fathoms. Hauling very quickly tires the manual operator, but hydraulic leave the operator fresh.

One criticism of hydraulic gurdies is that the high lines necessary in early season fishing could not be used but, with care, a breaking strain main line can be fished. Traces can be lengthened with outrigger bollards enabling two men to work as many hooks as three manually-operated lines. Much heavier weights have to be used to drive the longer traces which is very tiring manually. At £280 the gurdy is not cheap, but given steady fishing it can soon repay its cost.

Martyn Melhuish

## FASTER BRAZING

A NEW gas-fluxing unit which produces stronger brazing and bronze welding at a saving of up to 80 per cent in labour costs has been introduced by CTG Developments Ltd. of Ferndown Industrial Estate, Wimborne, Dorset.

The unit, which introduces the gas flux in the acetylene pipeline between the cylinder and the torch, is a small device mounted in just five minutes on a conventional cylinder trolley.

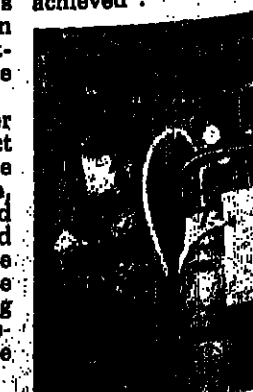
Priced at £76, each unit is supplied with one gallon of liquid flux lasting 200 hours. When the flux requires replenishing, the saving in time alone will have outweighed the original purchase cost, it is claimed.

The principal of the fluxer allows the flux to be fed direct to the workplace with the flame. Being in gaseous form, all parts are perfectly fluxed before the following filler rod is applied, thus producing the best joint. It eliminates the need for the time-consuming and repetitive action of constant powder transfer to the filler rod.

The elimination of powder flux enables up-hill and overhead brazing to be accomplished, minimising the

conventional hazards of hot flux or metal falling whilst work is in progress. Also, there is no hard, glassy residue of flux left and so the residue of flux left and so the task of cleaning and descaling is almost eliminated.

The fluxing unit has been in continuous operation for three years in the demanding racing car industry and following trials, the Ministry of Defence reported: 'The CTG Gas Fluxer is an extremely efficient piece of equipment which allows brazing to be carried out where formerly welding would have been considered necessary. A far better end result is achieved'.



Brazing with the CTG fluxing unit. Consistent results are achieved.

November 19, 1976

November 19, 1976

THE White Fish Authority has revamped its fishermen's training courses and six are to be introduced during the next few months.

They are: Care and Maintenance in the Engine Room; Hydraulic Fishing; Fishing Gear Technology for Inshore Fishermen; Fish Handling and Preservation at Sea; and Marine Science for Fishermen.

The government-financed Training Services Agency is helping the WFA with funds to develop the courses which are free to bona fide members of the UK fishing industry. Overseas students can take them on a fee-paying basis, or special courses can be arranged for them.

The practical courses will be short (from 2½ to 5 days) and lean heavily on demonstration and involvement.

The WFA is a research and development organisation concerned with the introduction of new equipment and techniques and so the courses will be kept up-to-date. Also, as the instructors all go to sea on commercial vessels, they have a wide knowledge and experience of commercial fishing as well as R & D work.

The use of the WFA's mobile training unit will enable training in engine maintenance and hydraulics to be held away from the WFA's base at Hull. Ports to be visited in coming months include Lowestoft, North Shields, Eyemouth, Pittenweem, Peterhead, Buckie and Grimsby.

For the other courses, however, the WFA's flume tank — or other special facilities — are required. So

# SIX TRAINING COURSES— and they're free

These will be held at the WFA fisheries training centre at Hull.

The course in pelagic fishing will be run in conjunction with the Hull College of Higher Education Faculty of Maritime and Engineering Studies, and will make use of its navigation and fishing simulator.

**Care and Maintenance in the Engine Room**

Designed in response to requests from inshoremen whose vessels do not carry a qualified engineer, this course is aimed to help them prevent, or diagnose and rectify, simple faults which comprise most breakdowns.

The course will start with an explanation of how diesel engines work, compare the different types, and outline the maintenance which can be done at sea and in harbour. Injectors, lubrication systems, cooling systems, etc., will be covered.

The course will go on to deal with electrical systems, including generators, motors, starters, batteries and cathodic protection. Safety precautions in the use of electricity will be stressed. The WFA's base at Hull. Ports to be visited in coming months include Lowestoft, North Shields, Eyemouth, Pittenweem, Peterhead, Buckie and Grimsby.

For the other courses, however, the WFA's flume tank — or other special facilities — are required. So

related course in hydraulics, so making up a five-day week. The first course will be held at North Shields from January 10 to 14, 1977.

**Hydraulics for Fishermen**

Recent years have seen a rapid increase in the use of hydraulic equipment on inshore vessels. This has created a wide demand for instruction in the care and maintenance of hydraulic systems and components which this 2½ day course has been designed to meet.

It will start with lectures on the application of hydraulics in fishing and the basic theory of hydraulics. It will then go on to discuss the different types of valves, pumps, motors and other components.

General maintenance of hydraulic systems will be covered, with emphasis being given to the importance of cleanliness and filtration.

Two of the most common winch drive systems on British inshore vessels (Dowty/Mastra and Norwinch) will be described in detail. Hydraulic controls will be simply explained, and the setting-up and maintenance of Morse controls will be covered.

The course will end with lectures on the selection of drive components, in which advice will be given on commissioning new systems.

Designed as a natural follow-on from the one on

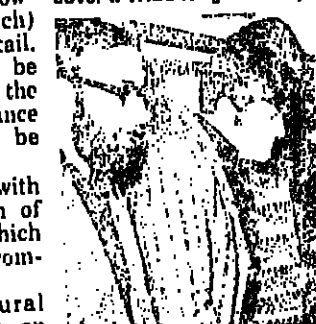
engine maintenance, participants will normally be expected to attend both courses. First course will be held at North Shields from January 10-14, 1977.

**Pelagic Fishing**

The course will start with lectures on the use of vertical echo sounders, net sounders and sonar in pelagic fishing. Operation of these instruments on the simulator will then follow, and course members will practice interpreting the various displays.

From the 'bridge' the students will move to the W.S.A.'s flume tank where demonstrations of model pelagic trawls will be given; they will experiment with different rigging arrangements. Then it will be back to the simulator where they will 'shoot' a pelagic trawl to a specified depth, manoeuvre the net on to a

Irish inshoreman on a recent WFA course in acoustic fish detection. The latest courses cover a wide range of subjects.



Continued on page 13

shoal of fish, work close to the bottom, along an edge, etc., and perform other tactical exercises.

The first pelagic gear course will be held at Hull from January 31 to February 4, 1977. It will be particularly suitable for skippers who have previously had little experience of pelagic fishing, or those who require a refresher course.

**Fishing Gear Technology for Inshore Fishermen**

This five-day course will be held for the first time from February 7-11, 1977, at the WFA's fisheries training centre at Hull.

Like the now well-established course for deep-sea fishermen, the inshore course will make use of the WFA flume tank. Training will be divided into three parts, covering inshore trawls in general, demersal gear, and pelagic gear, in that order.

It is anticipated that half the time will be spent experimenting with different rigging variations in the tank. These experiments will be based on suggestions from the

instructors or the participants own ideas. Keenly awaited by the inshoremen, this course is going to be every bit as popular as the deep-sea gear course. Although primarily aimed at fishermen, it should also be of interest to marine superintendents, loft foremen and others concerned with modern inshore trawl gear.

**Fish Handling and Preservation at Sea**

This three-day course dealing with the problems of handling and processing the catch on board fishing vessels will be primarily aimed at trawler officers and fleet managers. The first course will be held in Hull on March 2-4, 1977.

It starts with a lecture on bacterial and enzymic decay of fish flesh, during which members will examine live bacteria through a microscope. Gutting, washing and bleeding methods will then be described and demonstrated.

This will be followed by lectures on the use of ice for the preservation of fish and the methods of stowage by bulking, shelving and boxing. Demonstrations will be given using fishroom sections and fish.

The course will then go on to discuss freezing at sea, with demonstrations of freezing species including cod, herring, mackerel and blue whiting. The course will finish with discussions and demonstrations of fish processing machinery, in-

structors or the participants own ideas.

Keenly awaited by the inshoremen, this course is going to be every bit as popular as the deep-sea gear course. Although primarily aimed at fishermen, it should also be of interest to marine superintendents, loft foremen and others concerned with modern inshore trawl gear.

**Fish Handling and Preservation at Sea**

This three-day course dealing with the problems of handling and processing the catch on board fishing vessels will be primarily aimed at trawler officers and fleet managers. The first course will be held in Hull on March 2-4, 1977.

It starts with a lecture on bacterial and enzymic decay of fish flesh, during which members will examine live bacteria through a microscope. Gutting, washing and bleeding methods will then be described and demonstrated.

This will be followed by lectures on the use of ice for the preservation of fish and the methods of stowage by bulking, shelving and boxing. Demonstrations will be given using fishroom sections and fish.

The course will then go on to discuss freezing at sea, with demonstrations of freezing species including cod, herring, mackerel and blue whiting. The course will finish with discussions and demonstrations of fish processing machinery, in-

Continued on page 13

## Browse's 'Crusader'

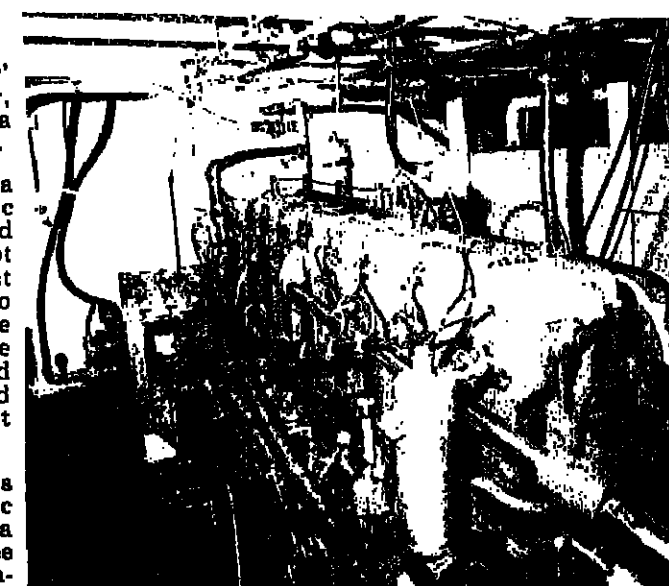
From page nine

R 104 M/F receiver, a 'Sailor' T 121E M/F transmitter, 'Sailor' RT 144 VHF and a Mermald 23 watch receiver.

Steering is by means of a Wills Ridley electric hydraulic system connected to a Sharp Skipper autopilot with watch alarm. A Kent Clear-View screen is fitted to the centre window of the wheelhouse. On the wheelhouse top are mounted the Fiam horn, deck loud hailer, Francis searchlight and six-man RFD liferaft.

The engine room is protected by an automatic fire detection system — a prototype produced by Tee Aid Electronic Ltd. The complex electrical system on this vessel has been carefully installed and breaker panels in the wheelhouse give immediate control.

Crusader has a speed of nine knots and, if past experience is anything to go by, she will have a life as good as



or better than an equivalent steel vessel.

Hinks is confident that there is still a future for this type of vessel and is hopeful of gaining an order for a similar vessel for another owner shortly.

Dag Pike.

Above: Crusader's eight-cylinder Gardner 8L38 diesel provides 230 hp. The unit is mounted on a steel sub-frame. Below: Plenty of space in the wheelhouse. Crusader relies on a Decos 110 radar and is equipped with a Mk. 21 Navigator.



## WHITE FISH AUTHORITY TRAINING COURSES

1976			1977 continued		
DECEMBER			MAY		
HULL	8 to 10	Fishing gear technology for distant water fishermen	HULL	2 to 6	Fishing gear technology for distant water fishermen.
			BUCKIE	9 to 13	Care and maintenance in the engine room hydraulics for fishermen.
			BUCKIE	16 to 20	Acoustic fish detection.
1977					
JANUARY			JUNE		
HULL	3 to 7	Fishing gear technology for distant water fishermen.	HULL	1 to 3	Fish handling and preservation at sea.
NORTH SHIELDS	10 to 14	Care and maintenance in the engine room hydraulics for fishermen.	HULL	8 to 10	Fishing gear technology for inshore fishermen.
NORTH SHIELDS	17 to 21	Acoustic fish detection.	GRIMSBY	13 to 17	Care and maintenance in the engine room hydraulics for fishermen.
* HULL	31 to 4 (Feb)	Pelagic fishing	GRIMSBY	20 to 24	Acoustic fish detection.
			HULL	27 to 28	Marine science for fishermen.
FEBRUARY			All courses are FREE to bona fide members of the UK fishing industry. Overseas students are also admitted on a fee paying basis or specialised courses can be arranged.		
HULL	7 to 11	Fishing gear technology for inshore fishermen.	<div>APPLICATION FORM</div> <div>WFA</div>		
EYEMOUTH	14 to 18	Care and maintenance in the engine room hydraulics for fishermen.			
EYEMOUTH	21 to 25	Acoustic fish detection.			
MARCH			* I would like to enrol for the course in ..... Date of course ..... Please send me more details about the following course: ..... (* Delete as appropriate) Name and address ..... Telephone No. ....		
HULL	2 to 4	Fish handling and preservation at sea.			
HULL	7 to 11	Fishing gear technology for distant water fishermen.			
PITTENWEEN	14 to 18	Care and maintenance in the engine room hydraulics for fishermen.			
PITTENWEEN	21 to 25	Acoustic fish detection.			
APRIL					
HULL	4 to 8	Fishing gear technology for inshore fishermen.			
PETERHEAD	11 to 15	Care and maintenance in the engine room hydraulics for fishermen.			
PETERHEAD	18 to 22	Acoustic fish detection.			
HULL	27 to 28	Marine science for fishermen.			

\* This course is run in conjunction with the Hull College of Higher Education Faculty of Maritime and Engineering Studies.



Voicing one of the major fears of its members, the FOS asks: how "exclusive" will "exclusive limits" be when the REAL intentions of our EEC partners are revealed. The society's annual general meeting is due to be held at Fishmongers' Hall, London, on November 24.



# Official and Classified ADVERTISEMENTS

Tel: 01-353 6961

Telex: 21977

Sysmag

All classifications: 9p per word, minimum charge £1.50.  
Six or more insertions at 8p per word, minimum charge £1.50.  
Box number 50p extra. Photographs £2.50 extra.  
Semi-display: £5.00 s.c.i. Six or more insertions at £4.50.  
All adverts under 7 insertions MUST BE PREPAID.  
Telephone by noon MONDAY or write:  
Classified Advt. Dept., Fishing News, 110 Fleet Street,  
London EC4A 2JL.

## VESSLS FOR SALE



34ft. x 12ft. 6in. x 3ft. 6in. steel MFV, launched August 1976, Perkins P6 VHF, sounder, two berth accommodation, offers around 14,750. Telephone: Barry 78402.

STEEL MFV, built 1981, registered length 68 ft., overall 73 ft., beam 19.5 ft., draft 10 ft., 49 cwt. gross, and net. Lister Blackstone 361hp, VFA 100 transducer. Also 361hp VFA registered length 76 ft., overall 80 ft. x 19.5 ft. x 10 ft. 6 in. 361hp gross tonnage 68.55 registered tonnage 31.79, built 1984, offers or would consider exchange for smaller vessel. Telephone: Fleetwood 3714 or 1481.

NEW IP20 simulated clinker workboat, heavy duty hull, needs finishing. Details telephone Nairn 63984.

46ft. MFV rigid stern trawler, Kelvin 66 recently overhauled. Service VHF, Kelvin Hughes MS29 sounder, Marconi Coastal R/T, and Deca MK21 on hire. Enquiries and offers to A. Marsh, 14 Mid-Shore, Pittenweem. Telephone: 611.

## FOR SALE BY PRIVATE BARGAIN MFV "STAR OF HOPE" (FR34)

Built of wood by J. & G. Forbes & Co. Sandhaven, 1956. Length overall 73ft., registered length 68.8ft., breadth 20ft., depth 8ft., tonnage gross and net 49.54 tons.

Fitted with 320hp Kelvin diesel engine, engine and gearbox completely overhauled by engine manufacturer's October 1976. Combined winch, power block and fitted for seine netting, trawling and pair trawling.

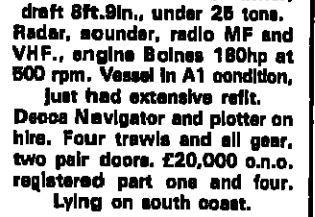
ON HIRE: Kelvin Hughes radar type 17 C W DRM, MS44 echo sounder with bottom lock, VHF and Deca Navigator Mk.21.

SHIP'S PROPERTY: SSB radio transmitter and receiver, Mermaid 21 watchkeeping receiver. Emergency R/T (Deca Navigator).

Quantity of gear available. This most successful fishing vessel is at present fishing out of Ulleppol and is being sold as the owners are taking delivery of new vessel.

All enquiries to Peter and J. Johnstone Limited, Fishalemen, 7 Balaclava, Fraserburgh. Telephone numbers: Fraserburgh 2386 and 8685.

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## FOR SALE BY PRIVATE BARGAIN MFV "STAR OF HOPE" (FR34)

Built of wood by J. & G. Forbes & Co. Sandhaven, 1956. Length overall 73ft., registered length 68.8ft., breadth 20ft., depth 8ft., tonnage gross and net 49.54 tons.

Fitted with 320hp Kelvin diesel engine, engine and gearbox completely overhauled by engine manufacturer's October 1976. Combined winch, power block and fitted for seine netting, trawling and pair trawling.

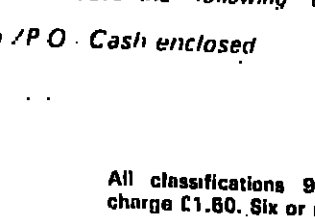
ON HIRE: Kelvin Hughes radar type 17 C W DRM, MS44 echo sounder with bottom lock, VHF and Deca Navigator Mk.21.

SHIP'S PROPERTY: SSB radio transmitter and receiver, Mermaid 21 watchkeeping receiver. Emergency R/T (Deca Navigator).

Quantity of gear available. This most successful fishing vessel is at present fishing out of Ulleppol and is being sold as the owners are taking delivery of new vessel.

All enquiries to Peter and J. Johnstone Limited, Fishalemen, 7 Balaclava, Fraserburgh. Telephone numbers: Fraserburgh 2386 and 8685.

## VESSLS FOR SALE



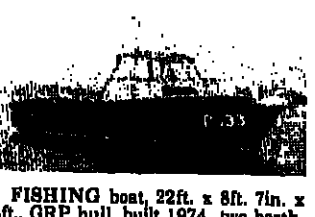
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE

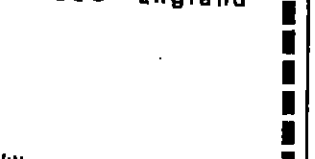
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



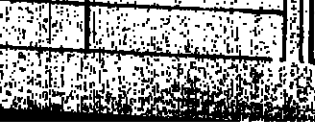
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

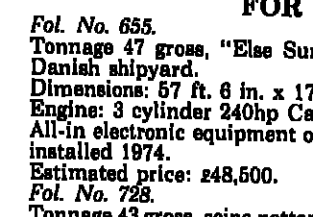
JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE

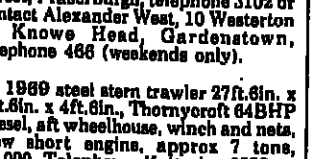
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



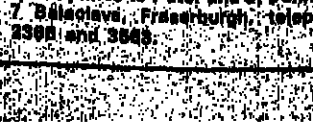
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

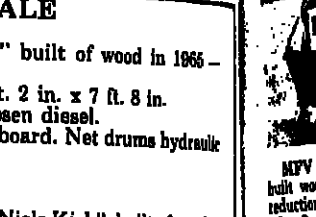
JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE

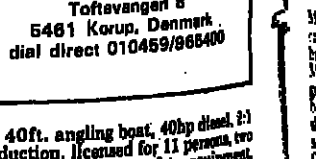
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

# Official and Classified ADVERTISEMENTS

Continued from Page 14

## VESSLS FOR SALE



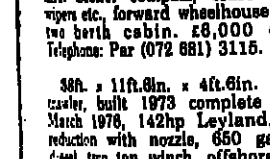
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



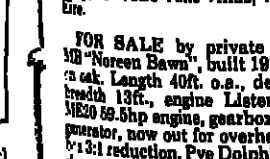
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



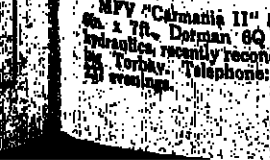
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

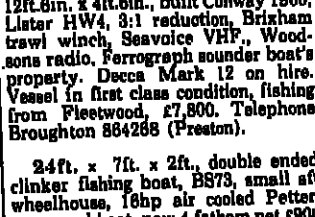
JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

## VESSLS FOR SALE



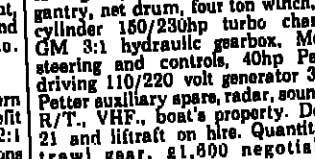
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



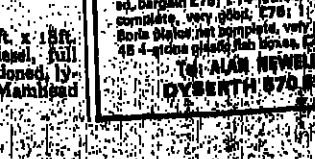
50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

NEW 18ft. power/angling boat, GRP, fore cabin, aft cockpit, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control, 10hp Volvo diesel twin cylinder, water cooled, Morse control. Price £2,500.

New various size wedding cakes. Price on application.

JOHNSON, SONS & JAGO Leigh-On-Sea, Essex. Telephone: 0702 76889

## VESSLS FOR SALE



50ft. Pleasure boat, twin engine 2.2 BMC diesel, 3:1 reduction fresh water cooled, BOT 1876 201. Price £3,000.

# EMS

FISHERMEN'S SMOKES BOAT OR VEEK Each with 3 pockets in Navy or Khaki Cotton Drill For only £2.48

INSTANT PACKING 1 item 50p 2 items 75p 3 items 100p 4 items 125p 5 items 150p 6 items 175p 7 items 200p 8 items 225p 9 items 250p 10 items 275p 11 items 300p 12 items 325p 13 items 350p 14 items 375p 15 items 400p 16 items 425p 17 items 450p 18 items 475p 19 items 500p 20 items 525p 21 items 550p 22 items 575p 23 items 600p 24 items 625p 25 items 650p 26 items 675p 27 items 700p 28 items 725p 29 items 750p 30 items 775p 31 items 800p 32 items 825p 33 items 850p 34 items 875p 35 items 900p 36 items 925p 37 items 950p 38 items 975p 39 items 1000p 40 items 1025p 41 items 1050p 42 items 1075p 43 items 1100p 44 items 1125p 45 items 1150p 46 items 1175p 47 items 1200p 48 items 1225p 49 items 1250p 50 items 1275p 51 items 1300p 52 items 1325p 53 items 1350p 54 items 1375p 55 items 1400p 56 items 1425p 57 items 1450p 58 items 1475p 59 items 1500p 60 items 1525p 61 items 1550p 62 items 1575p 63 items 1600p 64 items 1625p 65 items 1650p 66 items 1675p 67 items 1700p 68 items 1725p 69 items 1750p 70 items 1775p 71 items 1800p 72 items 1825p 73 items 1850p 74 items 1875p 75 items 1900p 76 items 1925p 77 items 1950p 78 items 1975p 79 items 2000p 80 items 2025p 81 items 2050p 82 items 2075p 83 items 2100p 84 items 2125p 85 items 2150p 86 items 2175p 87 items 2200p 88 items 2225p 89 items 2250p 90 items 2275p 91 items 2300p 92 items 2325p 93 items 2350p 94 items 2375p 95 items 2400p 96 items 2425p 97 items 2450p 98 items 2475p 99 items 2500p 100 items 2525p 101 items 2550p 102 items 2575p 103 items 2600p 104 items 2625p 105 items 2650p 106 items 2675p 107 items 2700p 108 items 2725p 109 items 2750p 110 items 2775p 111 items 2800p 112 items 2825p 113 items 2850p 114 items 2875p 115 items 2900p 116 items 2925p 117 items 2950p 118 items 2975p 119 items 3000p 120 items 3025p 121 items 3050p 122 items 3075p 123 items 3100p 124 items 3125p 125 items 3150p 126 items 3175p 127 items 3200p 128 items 3225p 129 items 3250p 130 items 3275p 131 items 3300p 132 items 3325p 133 items 3350p 134 items 3375p 135 items 3400p 136 items 3425p 137 items 3450p 138 items 3475p 139 items 3500p 140 items 3525p 141 items 3550p 142 items 3575p 143 items 3600p 144 items 3625p 145 items 3650p 146 items 3675p 147 items 3700p 148 items 3725p 149 items 3750p 150 items 3775p 151 items 3800p 152 items 3825p 153 items 3850p 154 items 3875p 155 items 3900p 156 items 3925p 157 items 3950p 158 items 3975p 159 items 4000p 160 items 4025p 161 items 4050p 162 items 4075p 163 items 4100p 164 items 4125p 165 items 4150p 166 items 4175p 167 items 4200p 168 items 4225p 169 items 4250p 170 items 4275p 171 items 4300p 172 items 4325p 173 items 4350p 174 items 4375p 175 items 4400p 176 items 4425p 177 items 4450p 178 items 4475p 179 items 4500p 180 items 4525p 181 items 4550p 182 items 4575p 183 items 4600p 184 items 4625p 185 items 4650p 186 items 4675p 187 items 4700p 188 items 4725p 189 items 4750p 190 items 4775p 191 items 4800p 192 items 4825p 193 items 4850p 194 items 4875p 195 items 4900p 196 items 4925p 197 items 4950p 198 items 4975p 199 items 5000p 200 items 5025p 201 items 5050p 202 items 5075p 203 items 5100p 204 items 5125p 205 items 5150p 206 items 5175p 207 items 5200p 208 items 5225p 209 items 5250p 210 items 5275p 211 items 5300p 212 items 5325p 213 items 5350p 214 items 5375p 215 items 5400p 216 items 5425p 217 items 5450p 218 items 5475p 219 items 5500p 220 items 5525p 221 items 5550p 222 items 5575p 223 items 5600p 224 items 5625p 225 items 5650p 226 items 5675p 227 items 5700p 228 items 5725p 229 items 5750p 230 items 5775p 231 items 5800p 232 items 5825p 233 items 5850p 234 items 5875p 235 items 5900p 236 items 5925p 237 items 5950p 238 items 5975p 239 items 6000p 240 items 6025p 241 items 6050p 242 items 6075p 243 items 6100p 244 items 6125p 245 items 6150p 246 items 617